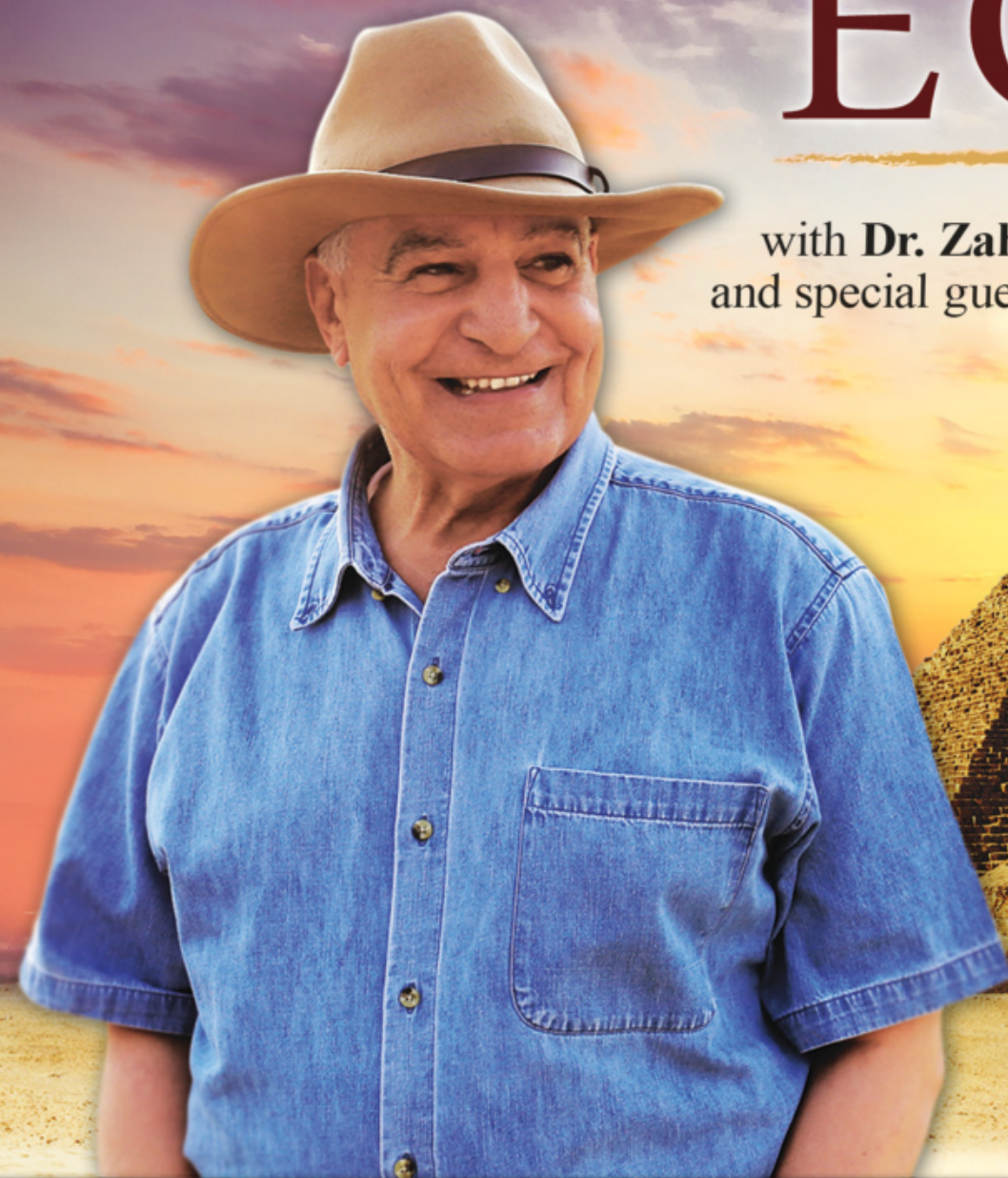


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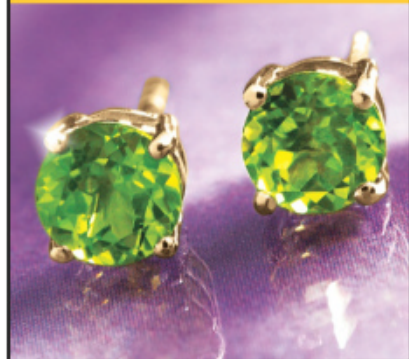
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Cover: A mosaic-covered sculpture depicts the Mesoamerican god Xolotl
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COURSING THROUGH HISTORY

The offices of *ARCHAEOLOGY* magazine are in New York City, a place defined by the rivers that surround it. In 1624, the Dutch West India Company founded the settlement of New Amsterdam at the southern tip of the island of Manhattan, where the East and Hudson Rivers meet. This location offered unfettered access to riverine waterways, to some of the world's finest deepwater harbors, and to the Atlantic Ocean. By 1626, when the company belatedly purchased Manhattan from the Lenape Indians, New Amsterdam was already a center of commerce.



It was fascinating as we worked on this issue to see how, across broad historical spans and great stretches of the globe, rivers have played a vital role in human history—and also helped to preserve the remains of the past. In “A River Runs Through It,” you will read about the River Wear, which traverses the city of Durham in northeast England. There, an underwater archaeologist has recovered more than 13,000 artifacts related to the city's past, in particular to the medieval period, when Durham Cathedral was a prominent pilgrimage center. Durham was also a center for textile dyeing, an industry highly dependent on rivers for production and transport.

Rivers are often the sites of military installations and battles. Much of the French and Indian War (1754–1763) was fought from the British and French forts constructed along the Hudson River, a story told in “Letter from Lake George: Exploring the Great Warpath.” And it was the rivers—the Hudson, Richelieu, and Saint Lawrence—that made the region the key to controlling North America. Similarly, the Virginia news item in this issue's World Roundup tells of the search for dozens of ships known to have sunk or been scuttled in the York River during the 1781 Siege of Yorktown, the Revolutionary War's decisive engagement.

The dangerous waters of the Mobile River in Alabama are the setting for “The Case for *Clotilda*” and the effort to identify the wreckage of the last ship to carry enslaved people to the United States. For the five years before *Clotilda* made her illegal voyage to West Africa and back to Mobile carrying 110 souls aboard—and before she was scuttled and sent to the bottom of the river where she still lies—the vessel was part of the lucrative cotton trade. Largely due to the city's position at the mouth of the Mobile River, Mobile became the largest exporter of cotton in the south by 1840.

Finally, the Jam River in western Afghanistan's Ghur Province has played a very different type of role in the region's history than the rivers of New York, Durham, or Alabama have played in their own. As told in “Minaret in the Mountains,” recent flooding of the river threatened to topple the Minaret of Jam, an extraordinary twelfth-century monument built by the sultans of an overlooked Islamic empire.

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FROM THE PRESIDENT

MY CAT'S MEOW

Some say that the world is divided into dog people and cat people. Having grown up with cats, I belong to the latter category. I recently learned that cats were domesticated relatively late in human history, probably in the ancient Near East. They were likely attracted to the food remains left by the area's early farmers and to the mice that inhabited grain storage areas. Dogs, by contrast, were the first animals to be domesticated, and were bred to perform specific tasks, such as herding and hunting. This goes a long way toward explaining why dogs can be easily trained, whereas cats are generally so independent.



My interest in the history of cats was sparked by a beautiful tabby kitten that my husband Jim named Zoe, after the mosaic of the zodiac cycle my team found while excavating the floor of the early fifth-century synagogue at Huqoq in northern Israel's Galilee region. Like the rest of the country, the kibbutz where we stay is overrun with feral cats. My husband fell in love with Zoe on account of her endearing habit of arching her back to be petted. We later realized this is something she does when she is hungry—and Zoe was starving when we first met her. During the dig season, Zoe spent much of her time in the lab playing with pieces of colored ancient plaster that had been carefully laid out, much to the chagrin of our painted-plaster specialist. Charmed by Zoe's personality, I knew we would end up taking her home.

Getting Zoe to North Carolina was a complicated process that, thankfully, did not require quarantine—although security officers at Israel's Ben-Gurion airport were bewildered that we wanted to take a cat back to the United States, asking, "Don't you have enough cats there?" Now two years old, Zoe has become quite domesticated, and is devoted to Jim and me, but will not approach anyone else. She is fiercely territorial, having laid claim to the downstairs of our house while our other cat, a Maine Coon named Squeaky, lives upstairs. Zoe's spotted coat and gooseberry-green eyes suggest she is, at least in part, a breed known as the Egyptian Mau. The ancient Egyptian word for cat actually sounds similar to "meow," and I like to imagine that Zoe's ancestors were worshipped as gods.

Jodi Magness

President, Archaeological Institute of America

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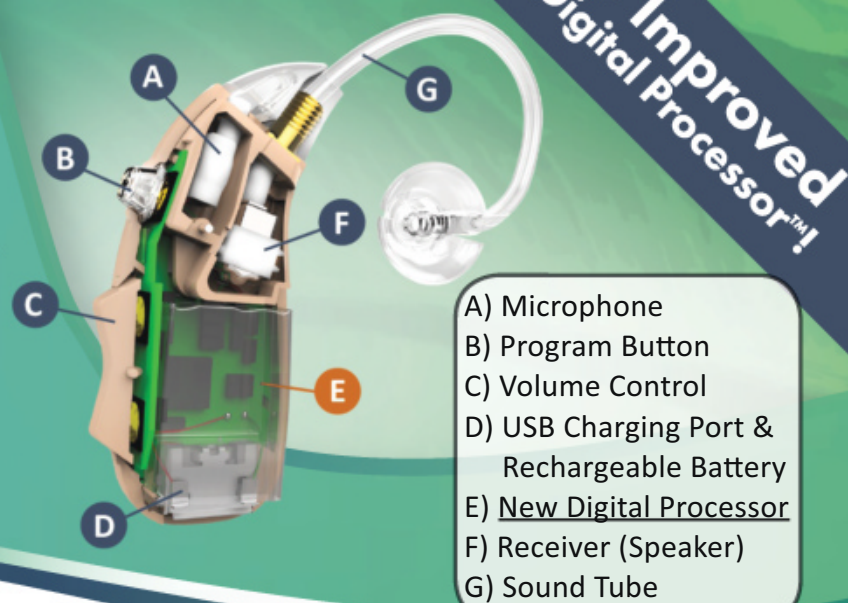


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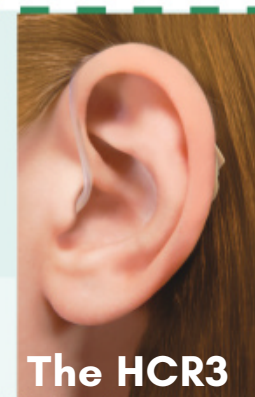
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FROM OUR READERS

MAP QUEST

I just read the May/June issue—I usually keep each issue to read on a long flight so I can absorb it from cover to cover without interruptions. The feature on maps (“Mapping the Past,” May/June 2019) is magnificent! Such brilliant choices you made—breathtaking and mind-blowing. Who knew that there were maps of waves? I have been meaning to write for some time to plead with you to include maps with your articles, so I was delighted to see that the map issue spurred you to do just that. It is a small, but very important addition that makes your always excellent and informative articles even more fascinating and relevant. Thank you!

Linda Freccia
Mountain View, CA

THE PRICE OF WAR

I am an avid reader of your magazine and truly enjoy the information you provide with each issue. I am also an ex-Marine, with, I acknowledge, a bias regarding the conduct of the war in the Pacific during WWII. As most inquiries into the past suggest, there is much to be learned—and unlearned—from the

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findings of archaeological expeditions. The archaeology of war and battlefields is no exception. While the cave carving by Japanese soldiers suggested this was a “Place of the Loyal Samurai” (July/August 2019) it is probably more indicative of the mind-set and propaganda tools used by the Japanese high command to motivate their own soldiers to fight to the bitter end than the observation of a code that probably few foot soldiers were truly aware of at the time, or that their senior command observed in day-to-day life. Very few generals, and certainly not the emperor, followed through on the samurai tradition at the conclusion of the war.

It is hard to fathom the thousands of senseless deaths on both sides during this battle that resulted from this fight-to-the-bitter-end mind-set. In any event, we see that unearthing the past is relevant and often compels us to reexamine the present. Thank you for this most thought-provoking article and the wealth of information provided in each issue.

Bernie DiDario
Live Oak, CA

After reading your article about the battle at Peleliu, I was reminded of a visit to the island on a dive trip in 1994. I was privileged to be guided by a young Palauan man considered at the time to be the battle’s official historian. He told us he was giving us the same tour he would give later in the year to President George H.W. Bush during commemorations of the anniversary of

his being shot down over Chichijima. The tour was sobering and poignant, reminding me of the sacrifice of these young men and all the others who fought in the Pacific, including my father.

Ed Roybal
Colleyville, TX

Update from archaeologist Neil Price:

Ben Raffield and I have just come back from Japan where we learned in conversation something that sheds another ray of light on what we found on Peleliu. It concerns the stack of phonograph records that are shown in the article (p. 47). Apparently many Japanese units were issued the records as a standard set of patriotic songs and marches, essentially propaganda.

DOUBLE SNAKE DARE

In the July/August 2019 issue, you mention a human coprolite from 1,500 years ago with venomous snake bits included (“Snake Snack”). The story concludes, “It’s possible that consumption of the snake was an element of ritual, likely undertaken by someone with an uncommonly strong stomach.” It’s been a long time since I was a young man, but it seems much more likely that this was a result of a bunch of inebriated young men hanging out, and one, upon seeing the snake, saying, “Betcha can’t do this!” And the rest, as they say, is archaeology.

JS Higginbotham
Slidell, LA



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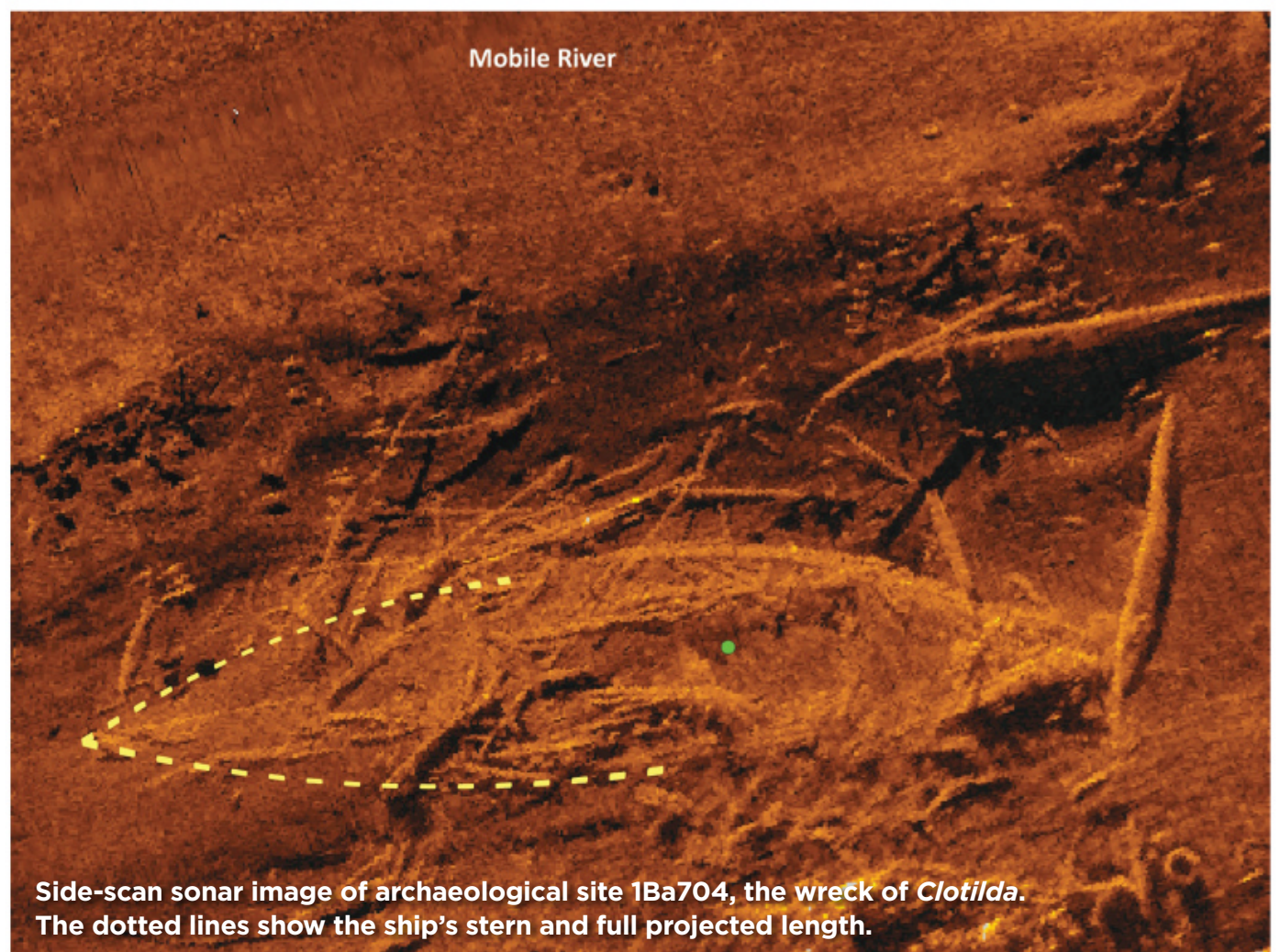
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THE CASE FOR *CLOTILDA*

A shipwreck designated archaeological site 1Ba704 should, say archaeologists, also be called *Clotilda*, one of the most notorious vessels in U.S. history. The path to identifying the wreck as the last ship to carry enslaved Africans to the United States has been challenging. And it began with the wrong wreck.

In 1855, William Foster, a shipbuilder and businessman born in Nova Scotia and trained in the shipyards of the northeast, traveled south to Mobile, Alabama, where he built the schooner *Clotilda*. On the first of her 40 commercial voyages, she sailed to Havana from Mobile with unknown cargo. On her last, in 1860, she traveled to Mobile from Ouidah in the West African Kingdom of Dahomey, carrying 110 Africans destined for the slave markets of New Orleans. By then, it had been illegal to import slaves into the United States for more than 50 years.

The U.S. government first searched for *Clotilda* shortly after learning of her illicit voyage, but the endeavor proved fruitless—just after offloading his human cargo, Foster had torched and scuttled his ship. There have been periodic efforts to locate the vessel since then, but it was not until January 2018, when a ship in the Mobile River designated archaeological site 1Ba694 was speculatively identified as *Clotilda*, that archaeological investigation began. “It didn’t appear to me from the news photos and from the size of the wreck revealed by Google Earth to be a close match to what we know of *Clotilda*,” says maritime archaeologist James Delgado of the archaeology firm SEARCH. Close examination and documentation by SEARCH archaeologists soon revealed that 1Ba694 was built in the late nineteenth or early twentieth century on the Pacific



Side-scan sonar image of archaeological site 1Ba704, the wreck of *Clotilda*. The dotted lines show the ship’s stern and full projected length.

Coast and was 183 feet long, far too large to be *Clotilda*. From the firsthand account of the launch, the official registration records, and insurance documents, *Clotilda* was known to have been less than half that size.

Having been enlisted to lead the project to try to find *Clotilda*, SEARCH, in cooperation with the Alabama Historical Commission, identified 14 potential targets for further exploration in a section of the river that had never been archaeologically surveyed. “Our priority was to focus our identification efforts on those wrecks that were possibly *Clotilda*,” Delgado says. “At first there were four candidates, then two, and then just one.”

After concluding that 1Ba704 was the most likely candidate, the team gathered evidence in the cloudy, snake- and alligator-infested river. Extensive excavation was out of the question due to its potential to disturb the wreck. Instead, the divers took samples of barnacle-covered wood, gathered rusty iron nails, and measured the portion of the

FROM THE TRENCHES

ship that was sticking out of the riverbed's viscous mud. Analysis showed that the ship was built of locally harvested yellow pine and white oak, some of which was brittle and carbonized, suggesting it had been burned. The team also found evidence that the ship once had copper sheathing, a telltale sign of a vessel meant for deepwater ocean travel. Extrapolating from those parts of the wreck they could measure, the researchers estimate



Wooden ship timbers

that the vessel was 86 feet long and 23 feet wide and had a 120-ton carrying capacity. Only eight schooners of more than 100 tons are known to have been built in the Gulf region during this time period, and 1Ba704 is the only one with the dimensions to match *Clotilda* and tonnage sufficient for the forbidden voyage to Africa.

Delgado acknowledges that the case is circumstantial and

that, while further excavation may provide more evidence, there might never be a name or an artifact that confirms the ship's identity beyond a shadow of doubt. Nonetheless, "if the level of preservation is as I suspect, then the physical evidence of the voyage will have survived," says Delgado. "I'm moved by the resilience of the enslaved Africans. *Clotilda's* story speaks to me as a human story, and also of how archaeology, which increasingly deals with slavery as a human institution, can provide new insights into the lives of the enslaved."

—JARRETT A. LOBELL

OFF THE GRID HOPEDALE, CANADA

Along the rocky shoreline of Hopedale, in Labrador's autonomous Inuit region of Nunatsiavut, a community is working to document and preserve more than 500 years of its past. Hopedale, which is home to a population of roughly 600, is celebrated for its postcard-worthy complex of wooden buildings constructed by Moravian missionaries who arrived in the 1780s. It was once the site of a major Inuit settlement called Agvituk—"place to find whales"—a large whaling center and nexus for Inuit-European coastal trade from the sixteenth through eighteenth centuries. "Moravian missionaries considered Agvituk to be the Inuit equivalent of Paris or London," says archaeologist Laura Kelvin of Memorial University of Newfoundland, who is documenting artifacts uncovered at the site and conducting interviews with longtime Hopedale residents.

The Avertok Archaeology Project is led by Lisa Rankin, also of Memorial University, in partnership with the Nunatsiavut government. Its researchers are searching for archaeological evidence of Agvituk. Digging in Hopedale's historic core, they have uncovered a mix of indigenous and European artifacts dating back to the sixteenth century. To spread word of their findings, some of the younger volunteers have established a robust social media presence for the project. This, Kelvin explains, will serve as a digital community archive of archaeological and traditional knowledge of Agvituk and the surrounding area. "The Nunatsiavummiut youth are the heart of this project," she says. "Their hard work and dedication to sharing and learning more about their culture is the driving force."

THE SITE

Hopedale can be reached from the town of Happy Valley-Goose Bay, some 200 miles to the south. There visitors can book travel via regional airline or coastal ferry. Kelvin recommends beginning at the Hopedale Mission Complex and Interpretation Center, where tours of the mission buildings are offered, and artifacts uncovered by the

Hopedale Mission, Hopedale, Canada



Avertok Archaeology Project are on display. As the legislative capital of the Nunatsiavut government, Hopedale is also home to its assembly building. The building's facade is constructed to look like an igloo, and its interior features tiling finished with local labradorite stone. After a day taking in the sites, unwind on the patio of Hoped-

ale's Amaguk Inn for striking ocean views and possible whale sightings.

WHILE YOU'RE THERE

Anglers can enjoy ice fishing in the winter and rod fishing in the summer, and are encouraged to hire local guides, who possess deep knowledge of Hopedale's diverse marine landscape. In July, the town celebrates the height of its relatively short summer growing season with a rhubarb festival, and, come winter, community members build igloos on the sea ice. When you go, make sure to save room in your luggage for expert carvings and beadwork made by some of Hopedale's master craftspeople.

—MARLEY BROWN



A GOD GOES SHOPPING

During a construction project to reconnect the market and forum of the emperor Trajan (r. A.D. 98–117) in the heart of Rome, archaeologists have been clearing what remains of the Renaissance neighborhood of Via Alessandrina, which separated the two grand imperial spaces. While dismantling a sixteenth-century wall, they found a large, ancient marble head that had been reused as construction material. “We think the sculpture represents the god Dionysus and dates to the first or second century A.D.,” says Claudio Parisi Presicce, director of Archaeological and Art Historical Museums of the Archaeological Superintendency of Rome. “The shape of the mouth, tilt of the head, and now-empty eye sockets, which were once filled with glass paste or gemstones, suggest this sculpture was produced by a very fine Greek-style workshop.” The head has since been brought to the superintendency’s restoration lab, where, says Presicce, it will be cleaned, and the remaining red, yellow, and ochre pigments that once covered it will be conserved, allowing all to see how it really looked nearly 2,000 years ago.



Head of Dionysus

—MARCO MEROLA

Market and forum of Trajan, Rome, Italy



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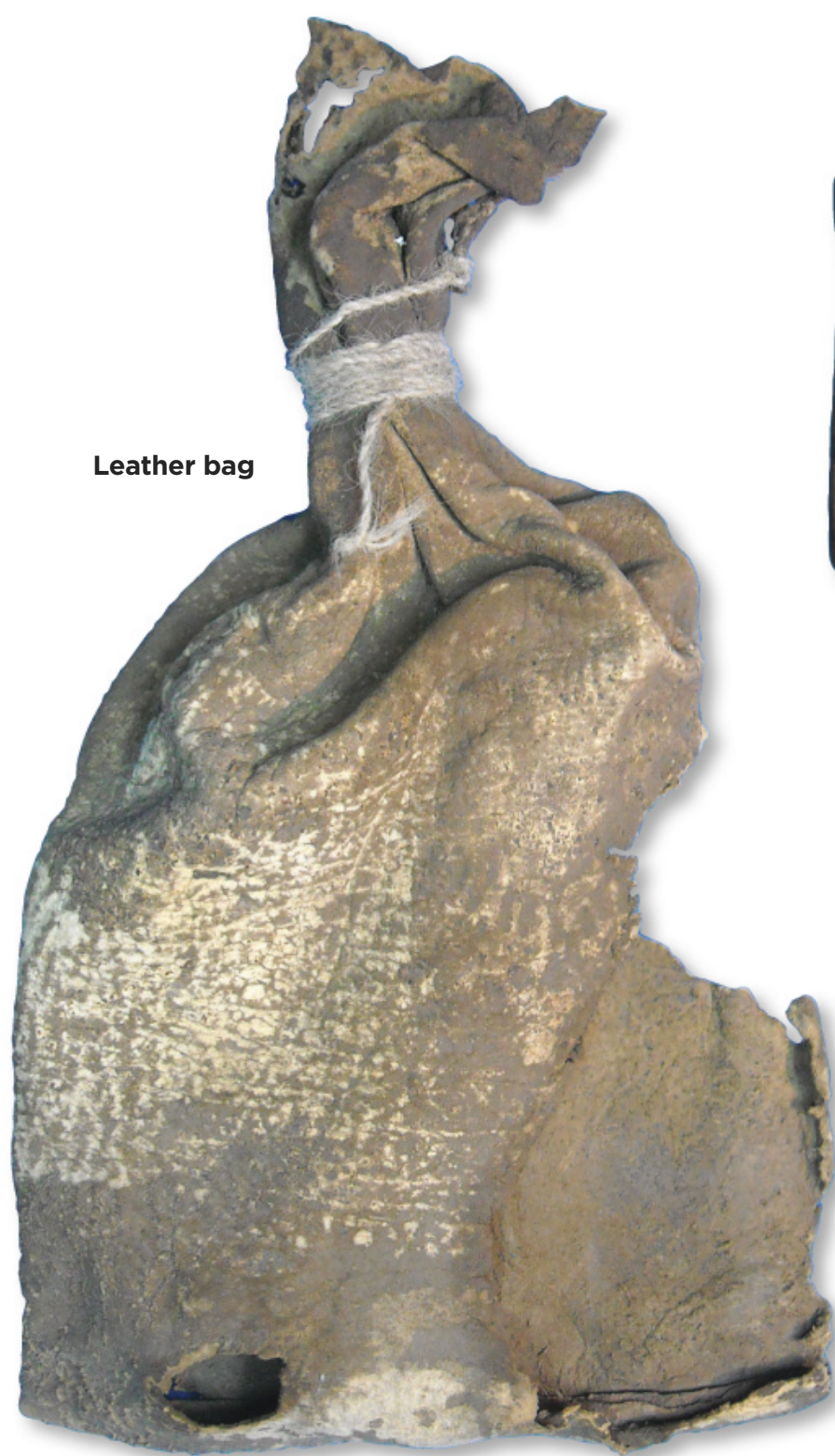
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FROM THE TRENCHES



Leather bag



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Snuff tablet



Camelid-bone spatulas

HALF IN THE BAG

A 1,000-year-old bundle of drug paraphernalia discovered in southwest Bolivia has been found to contain a truly impressive array of psychotropic substances. On the items in the bundle, researchers have identified traces of tobacco, coca, the raw materials of a psychoactive snuff called *vilca* or *cebil*, and *Banisteriopsis caapi*, which is used to prepare the concoction known as ayahuasca. The bundle, which was retrieved from a cave in 2010, included an anthropomorphic snuff tube with attached braids of human hair, a large leather bag holding two carved wooden snuff tablets, camelid-bone spatulas, and a pouch made of three stitched-together fox snouts. The leather bag has been radiocarbon dated to between

A.D. 905 and 1170. During this time, the Tiwanaku culture, which dominated much of the southern and central Andes from the fifth through eleventh centuries, declined and eventually collapsed. “We know that during the Tiwanaku period, the consumption of hallucinogens was an important component of the religious system,” says Penn State University archaeologist José Capriles. Plant material identified on the objects came from a variety of ecosystems, Capriles says, and was likely gathered by shamans who traveled long distances and tapped into far-reaching exchange networks to access specialized plant species and accumulate knowledge of varied preparations.

—MARLEY BROWN

HERDING GENES IN AFRICA

Animal herding, which has been a way of life in north-eastern Africa for about 8,000 years, had spread to southern Africa by 2,000 years ago. Whether this pas-

toral lifestyle was brought south by immigrants or adopted by hunter-gatherers who were already living in the region has long been an open question. In an attempt to find an answer, a mul-

tinational team of scientists studied 41 genomes from people who lived in Africa between 4,000 and 300 years ago. The results revealed that pastoralists who migrated from southwestern Asia into eastern Africa around 5,000 years ago interbred with local foragers. However, about 3,300 years ago, once the herding lifestyle had become established, this interbreeding ceased. According to lead researcher Mary Prendergast of Saint Louis University in Madrid, why pastoralists and foragers stopped interbreeding remains unknown.

—ZACH ZORICH

Herders, Tanzania



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BRONZE AGE PALACE SURFACES

The waters of the Tigris River in Iraqi Kurdistan have receded and revealed the ruins of a 3,400-year-old palace. A team led by Hasan Ahmed Qasim of the Kurdish Archaeology Organization and researcher Ivana Puljiz of the University of Tübingen has now excavated the site and found that the palace's six-foot-wide interior walls were painted in places with bright red and blue murals. They also uncovered a



Painted mural fragments

cuneiform tablet that suggests the site was the city of Zahiku, part of the Mitanni Empire, which occupied northern Syria and Mesopotamia from 1500 to 1350 B.C. That cuneiform tablet

and nine others are still being translated.

Tablets related to the Mitanni excavated at other sites show that while the empire's rulers used a native language known as Hurrian, they might have been descended from people who spoke a version of Old Indic. Old Indic is the language of the *Rigveda*, the ancient Hindu text that was first written on the Indian subcontinent sometime before 1000 B.C. The Mitanni kings had Old Indic names and worshipped gods that are mentioned in the *Rigveda*. A tablet containing a manual on horse training even shows the Mitanni used Old Indic terms related to charioteering. This raises the possibility that the Mitanni aristocracy might have originally been Old Indic-speaking mercenaries who drove chariots and usurped a native Hurrian dynasty, but quickly adopted its language and customs.

—ERIC A. POWELL



Bronze Age palace, Iraqi Kurdistan

UPPER PALEOLITHIC CAVE LIFE

A rare view of family life some 14,000 years ago has been made possible by recent studies and 3-D modeling of the traces left by a group of five people who walked, crawled, and explored their way through Grotta della Basura in the Liguria region of northern Italy. The cave was originally explored in the 1950s, but



Grotta della Basura, Liguria, Italy



Footprints, Grotta della Basura

an international team of researchers recently modeled 180 footprints, as well as finger and knee prints. They retraced the movements of the group—two adults, one preadolescent, one six-year-old, and a three-year-old—and reconstructed how they explored the cave. They can be “seen” hugging the cave's edge, crouching down and walk-crawling where the ceiling drops low, and falling into a single-file line, with the three-year-old at the back, in one of the cave's narrow chambers. In the chamber farthest from the entrance, called the Room of Mysteries, smears of clay on a stalagmite—a sort of Paleolithic finger painting—were made by the two youngest children.

—LYDIA PYNE

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SCARAB FROM SPACE

Tut gold pectoral with
Libyan Desert glass



Among the treasures discovered in King Tut's tomb is an elaborate pectoral with a central scarab carved from a canary-yellow material called Libyan Desert glass. Found in the sand dunes of Egypt's western desert, the glass was formed about 29 million years ago when a quantity of quartz melted at a temperature in excess of 3,000 degrees Fahrenheit, which is hotter than the inside of a volcano. Scholars have long debated whether the yellow glass was created by a meteor that exploded aboveground or by a meteorite impact.

To test these hypotheses, geologist Aaron Cavosie of Curtin University searched glass samples for grains of the mineral zircon that hadn't broken down under the intense heat that formed the glass. He identified a small number of preserved zircon grains whose crystal orientation indicated that they had transformed from reidite, a mineral that can only be formed by a meteorite strike. "This provides the first bulletproof evidence that Libyan Desert glass was formed by a meteorite impact," says Cavosie. No impact crater resulting from such an event has ever been located, he explains, though it may lie beneath shifting dunes or may have eroded to such a degree that it's no longer distinguishable on the landscape.

—BENJAMIN LEONARD

Libyan
Desert
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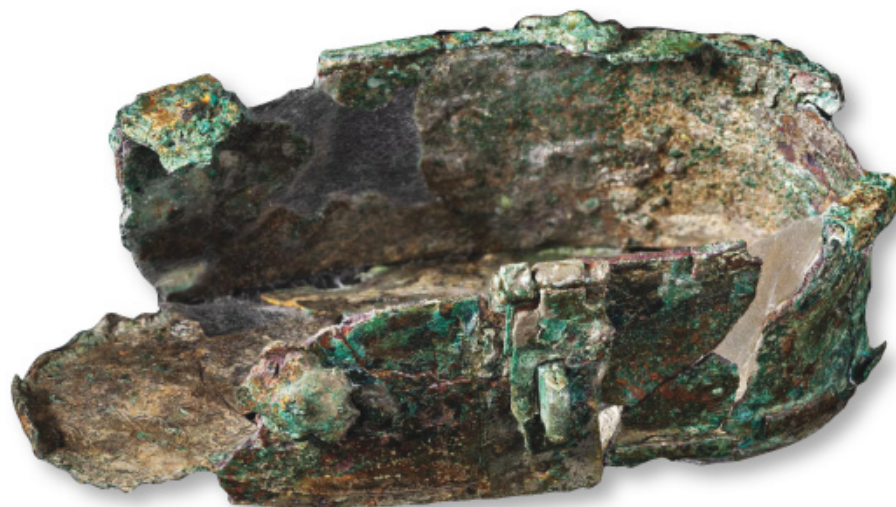
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FROM THE TRENCHES

A CATALOG OF PRINCES



Gold and silver coins



Bronze box



Enameled wedding medallion

uminaries constituting a veritable who's who of late medieval Europe are depicted on a cache of 10 gold and 24 silver coins found inside a bronze box buried beneath the floor of a late fifteenth- or early sixteenth-century house in Dijon, France. Almost all the coins were minted outside France, mainly in locations within the Holy Roman Empire and on the Italian peninsula, according to archaeologists from France's National Institute of Preventive Archaeological Research. The historical figures portrayed on

the coins include some of the continent's most prominent power brokers: Ercole II d'Este, the duke of Ferrara and grandson of the notorious Pope Alexander VI; the powerful German bishop Philip I of Palatinate; Pope Innocent VIII; and the wealthy Venetian doge Nicolo Tron, among others. Also hidden in the box was a green and white enameled gold pendant typical of wedding medallions, which features the initials V and C interlaced with a gold braid.

—JASON URBANUS

SOWING THE LAND

Peccaries, pig-like mammals native to Central and South America, may have been imported to Barbados by Iberian sailors sometime before the 1627 English colonization of the island. While studying a collection of faunal remains held by the Barbados Museum and Historical Society that were excavated in the mid-twentieth century at a colonial domestic site, zooarchaeologist Christina Giovas of Simon Fraser University identified a partial peccary jawbone. The specimen has been radiocarbon dated to between 1645 and 1800, and strontium isotope signatures—which can help determine where a person or animal originated—suggest the peccary spent its whole life on Barbados. Giovas initially suspected that the animal descended from a population introduced by indigenous people who migrated to the island from South America. However, prehistoric human exploitation of animals on Barbados is well documented, she says, and peccaries have never been identified in that record. “The

Spanish were aware of the island by the early 1500s,” Giovas explains. “They didn’t settle it, but it’s likely that they stopped by to resupply and acquire fresh water, and in that process probably dropped off peccaries on their way back from South American colonies.” The peccary population may have been hunted to extinction soon after the English arrived.

—MARLEY BROWN

Peccary



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FROM THE TRENCHES

WE ARE FAMILY

Neolithic mass grave, Poland



Fifteen people who were killed in a brutal massacre almost 5,000 years ago and buried together in southern Poland were part of an extended family, genetic analysis has revealed. “The people’s bodies are

carefully arranged according to family relationships—mothers are next to their children, and brothers are close to each other,” says Hannes Schroeder, an ancient DNA specialist at the University of Copenhagen. “This shows that they

were buried by people who knew them well, most likely by relatives.” Given that adult males are largely missing from the grave, Schroeder adds, they may have been the ones who performed the burial.

The genetic analysis also showed that all the males in the burial were from a single male lineage, whereas the women and girls were from six different female lineages. This suggests that the family, which belonged to a Neolithic farming culture called the Globular Amphora Culture, was patrilineal, with women leaving their own families to join their male partners. The massacre may have occurred as the result of tensions caused by an influx of pastoralists from the steppes to the east. “We have no way of saying who did the killing,” says Schroeder, “but when you have increased competition for resources it tends to lead to conflict.”

—DANIEL WEISS

HOME ON THE PLAINS

Forest island, Bolivia



The earliest known settlements in southwestern Amazonia date to thousands of years before the rise of agriculture in the area. Researchers have found that between 10,600 and 4,000 years ago, hunter-gatherers settled for at least part of the year at sites in an expanse of tropical savanna known as the Llanos de Moxos in northern Bolivia. Led by José Capriles, an archaeologist at Penn State University, the team carried out excavations at three forest islands—wooded areas slightly elevated above the surrounding plains. There they found layers



of charcoal, snail shells, and bones of animals ranging from fish and deer to snakes and armadillos.

Capriles believes that people spent a portion of each year at the forest islands, most likely during the rainy season when lower-lying areas flooded, and that they came to see the sites as home. In addition to evidence of what people ate, the team unearthed five complete human skeletons encrusted in calcium carbonate that had leached from the soil. The bones were too degraded to be dated, but appear to have been intentionally buried between 7,000 and 6,000 years ago, based on radiocarbon dating of charcoal associated with them. “If your ancestors are buried in a place, you feel a stronger connection to it and can make an argument that it’s yours,” says Capriles. “The burials may also have created a sort of social memory that tied people together in these places.”

—DANIEL WEISS

SAQQARA'S WORKING STIFFS



Nonsensical hieroglyphic inscription



Depictions of Anubis

Thirty-six mummies dating to between 600 B.C. and A.D. 100 have been discovered by a team of Polish archaeologists in Saqqara, the ancient cemetery of the city of Memphis in Egypt. These mummies received only the simplest embalming, explains excavation director Kamil Kuraszkiewicz,

an Egyptologist at the University of Warsaw. “There are no inscriptions or personal items that would hint at these people’s names or professions,” he says, “but analysis of skeletal remains indicates that they mostly performed hard labor.” Of the very few coffins found with the mummies, one was decorated with a nonsensical hieroglyphic inscription and rough depictions of jackals meant to represent Anubis, the god of death. The designs seem to imitate coffins found in high-status burials.

—ZACH ZORICH

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FROM THE TRENCHES

INNER BEAUTY



Painted tomb, Cumae, Italy

In a necropolis at the site of Cumae, near Naples in southern Italy, archaeologists have uncovered a painted tomb dating to the second century B.C. Cumae is the oldest Greek settlement in Italy, founded

sometime in the eighth century B.C. It is also the home of the Cumaean sibyl, a prophetess who, like her counterpart at Delphi in Greece, presided over a sanctuary of Apollo. Like the sibyl,

Cumae maintained its importance for centuries. It was the home of a large community of non-Latin-speaking local Italic people called Oscans who settled there in the fifth century B.C., and remained influential into the second and first centuries B.C., explains archaeologist Priscilla Munzi of the French National Center for Scientific Research.

The Oscan tomb is constructed of huge blocks of tufa. Unlike the other tombs found in the necropolis, however, whose inner walls are simply plastered, or, at most, plastered and painted white or red, this tomb's walls are covered with a banquet scene above the entryway and landscapes on the ceiling and side-walls. Along three walls, there are stone beds for the deceased. The necropolis was eventually abandoned and covered over by an artificial terrace built by the Romans in the first century A.D. and used for military training.

—MARCO MEROLA

VOLCANO VIEWERS

More than 50 years ago, human footprints were found preserved in volcanic ash near the Çakallar volcano in western Turkey. Since then, experts have tried to figure out when the eruption that cemented the prints in the earth occurred. Now, a team led by geologist İnan Ulusoy of Hacettepe University has produced a definitive answer. Using

dating methods that measure the time since the basaltic lava flow first reached Earth's surface and the time since external rocks carried by the volcano's molten magma were last heated, they calculated that the eruption occurred approximately 4,700 years ago.

Ulusoy and his team also propose that a recently documented pictograph painted on a boulder at a rock shelter just over a mile from the footprints may be an illustration of Çakallar's eruption made by Bronze Age people who saw it firsthand. The painting appears to depict a volcanic crater, with red dots that could represent glowing vents and a thick red line that may indicate the lava flow that breached the crater's edge. Says Ulusoy, "I think what prehistoric people witnessed were relatively mild, low-intensity eruptions that you could watch from a safe distance."

—BENJAMIN LEONARD



Volcano painting



Preserved Bronze Age footprint

PARTIALLY IDENTIFIED FLYING OBJECTS



Geoglyph, Nazca Lines, Peru

Sixteen of the mysterious geoglyphs known as the Nazca Lines depict birds—more than any other type of plant or animal. A team of researchers from Japan recently set out to determine which bird species were rendered in the deserts of southern Peru between 2,400 and 1,300 years ago. They have concluded that one image, previously identified simply as a hummingbird, actually represents a specific type of hummingbird called a hermit, which is distinguished by its long, pointed tail. Two geo-

glyphs were found to show pelicans, and another appears to be a baby parrot. The geoglyph creators must have had a penchant



Long-tailed hermit

for depicting exotic species, as none of these birds live in the Nazca region. In a number of cases, the avians had features that could not be reconciled with any known bird. “I don’t think all the Nazca bird geoglyphs were modeled on real bird species,” says Masaki Eda of the Hokkaido University Museum. “I think some of them combined the traits of several different birds.”

—DANIEL WEISS



VIRGINIA: Divers exploring the York River identified burned wooden timbers and cannons that may belong to a British ship that sank during the Siege of Yorktown. In this, the Revolutionary War's decisive battle, George Washington's army attacked the British by land, while the French navy assaulted them from the sea. More than 40 British ships went down during the onslaught, either from enemy fire or because they were deliberately scuttled by Lord Cornwallis in an attempt to stop a French landing.

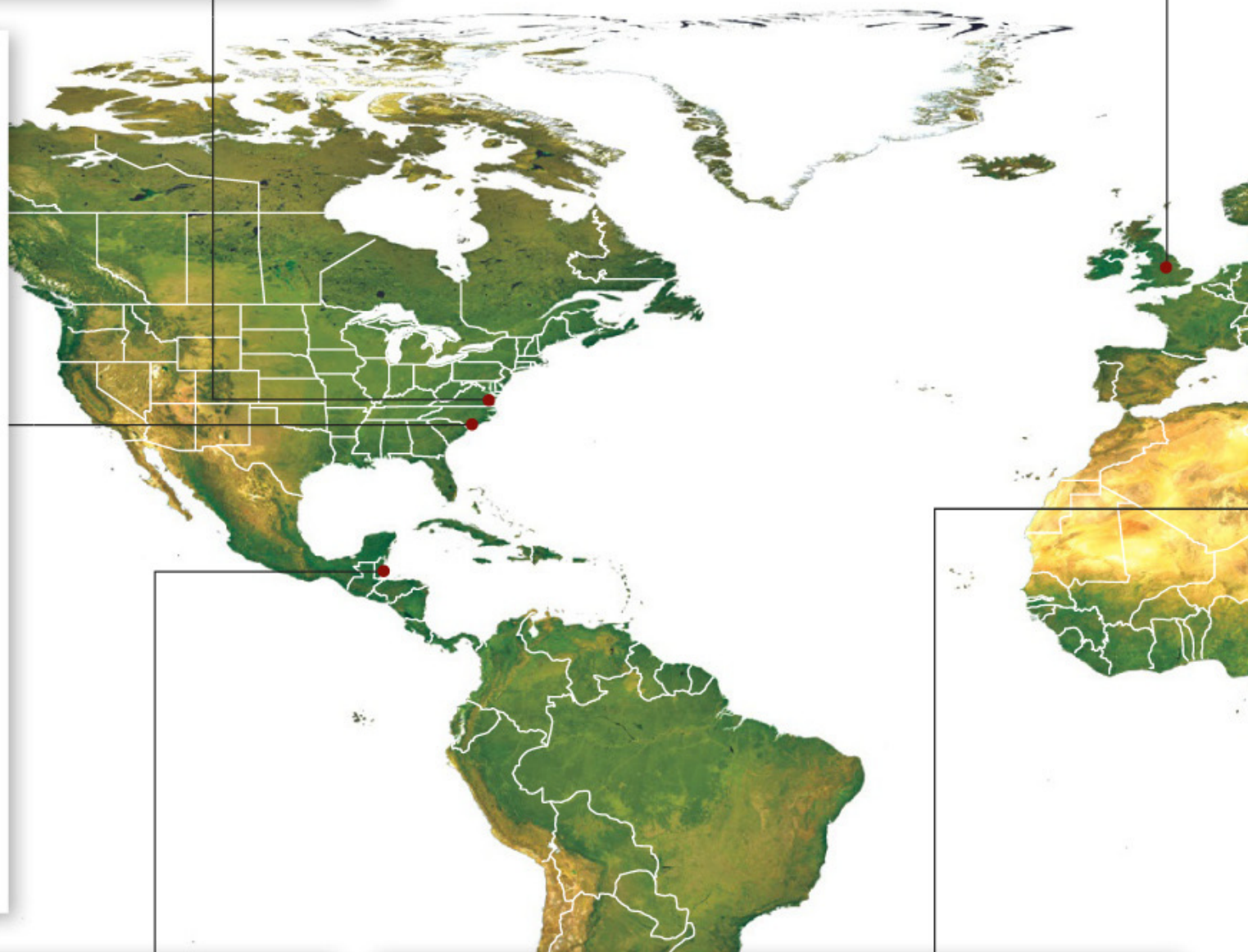


ENGLAND: The stone foundations of an early phase of Lady Jane Grey's childhood home were uncovered in Bradgate Park, in Leicestershire. The Greys were one of the most prominent English families during the Tudor period and lived in Bradgate House for more than 200 years. Grey famously ruled England as queen for nine days before being deposed—and executed—in 1554 by Henry VIII's daughter Mary I.

NORTH CAROLINA: A tavern in Brunswick Town that burned down in the 1760s may have been a popular watering hole for rebellious colonials.



A small cufflink found among the tavern's remains was inscribed with the words "Wilkes Liberty 45," a cryptic rallying cry used by those opposing King George III. The phrase refers to seditious English politician and pamphleteer John Wilkes. In edition no. 45 of his paper, he criticized the English monarch—which got him arrested, but endeared him to American patriots.



BELIZE: The Maya's dependence on maize may have ultimately led to their collapse. Isotope analysis of bones from 50 burials at the site of Cahal Pech illustrates how the Maya diet changed between 745 B.C. and A.D. 850. Early communities had a more diverse diet that included maize as well as animals and wild plants. By the 9th century A.D., though, a strong preference for maize, driven by upper-class tastes, led to intensive farming of and overreliance on the crop, leaving it susceptible to drought.



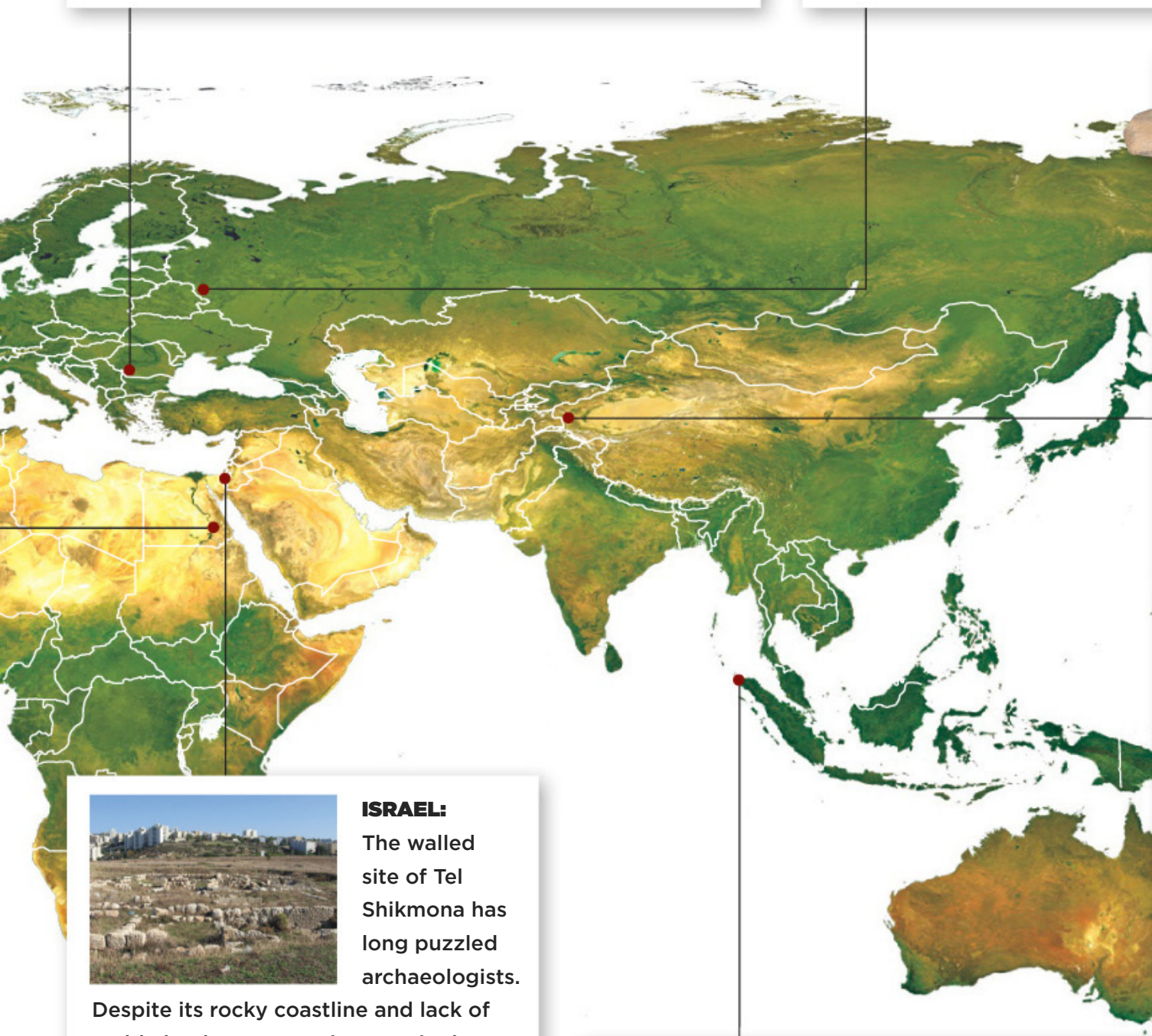
EGYPT: The wild African watermelon has white flesh and is largely inedible due to its bitterness. However, wall paintings from ancient Egyptian tombs depict what appear to be watermelons, which has led experts to speculate that the fruit may have been domesticated in a manner that made it more palatable. Now, DNA sequencing from a watermelon leaf found in a 3,500-year-old tomb in Luxor has shown that two of the melon's genes were manipulated, causing it to develop red flesh and a sweet taste. This confirms that New Kingdom Egyptians did indeed cultivate watermelons similar to the ones we enjoy today.



ROMANIA: In 1941, when a 33,000-year-old human skull was discovered in southern Transylvania's Cioclovina Cave, it was recognized as the remains of one of the earliest modern humans in Europe. New research suggests it is also evidence of a Paleolithic murder. Forensic investigation and experimental simulation concluded that two fractures on the skull were inflicted premortem, and not postmortem as originally thought. The individual appears to have been killed by blunt-force trauma to the head with a club-like object wielded by a left-handed suspect.



RUSSIA: Some 200 years after Napoleon's unsuccessful invasion of Russia, residents of Smolensk unknowingly danced on the grave of one of the emperor's most trusted generals. The body of Charles Étienne Gudin was recently discovered beneath an outdoor dance floor in the city. The skeletal remains were consistent with records showing that Gudin's left leg was amputated after the 1812 Battle of Valutino. Upon his death, Gudin's heart was removed, brought back to France, and interred in Paris' Pere Lachaise cemetery.



CHINA: Long before it was popularized in the West by the 1960s counterculture, cannabis was an important part of Central Asian rituals. Researchers have detected trace amounts of the drug on several 2,500-year-old wooden braziers from the Jirzankal cemetery in far western China. This is the oldest scientifically verified evidence of cannabis smoking. The samples contained higher levels of psychoactive chemicals than most wild cannabis varieties, suggesting that locals may have cultivated the plant for its mind-altering effects.



ISRAEL: The walled site of Tel Shikmona has long puzzled archaeologists.

Despite its rocky coastline and lack of arable land, a community seemingly thrived there between the 11th and 6th centuries B.C. Recent reevaluation of ceramic material indicates the site housed a facility that produced purple dye, one of the ancient Mediterranean's most sought-after commodities. The valuable dye was extracted from murex marine snails in a labor-intensive process that is still not fully understood.



INDONESIA: When the 2004 tsunami hit the northwestern coast of Sumatra, it caused almost unimaginable destruction. It also unearthed evidence that a previous tsunami had struck some 600 years earlier. A survey along 25 miles of coast near Banda Aceh revealed that at least 10 medieval communities once thrived there as part of the maritime Silk Road. A 1394 tsunami destroyed all but one of them. Thousands of recently recorded 15th-century Muslim gravestones suggest that Islamic traders eventually resettled the abandoned coast.



Artifacts from the Griffin Warrior's grave: The face of a gold ring (left) shows a scene of female figures at a shrine on a coastal inlet or an island. The largest female figure is thought to be a Minoan goddess, while the others are likely dancing and singing worshippers. A Minoan gold necklace (below) with three beads, two of agate and the largest of faience. The Pylos Combat Agate (right) is an extraordinarily fine seal stone measuring only 1.4 inches wide. It depicts the final moments of a battle among three warriors.



WORLD OF THE GRIFFIN WARRIOR

A single grave and its extraordinary contents are changing the way archaeologists view two great ancient Greek cultures

by ANDREW CURRY



THE AGE OF HOMER was an age of heroes—Agamemnon, the king of Mycenae, Odysseus, the king of Ithaca, and Nestor, the king of Pylos, among others—whose deeds are chronicled in the *Iliad* and the *Odyssey*. Many archaeologists believe that Homer's tales, despite being composed 500 or more years after the Late Bronze Age events they describe, had roots in a real past. "There's always a kernel of truth to stories handed down

from generation to generation," says archaeologist Jack Davis. Whether these men were real people is unknown. But the culture they belonged to, which dominated Bronze Age Greece from around 1600 until 1200 B.C.—known as Mycenaean since it was given that name by nineteenth-century scholars—was certainly the model for the poems' dimly remembered heroes from the deep past.

Over the past century, archaeologists and linguists have largely focused their studies on the Mycenaeans' place in

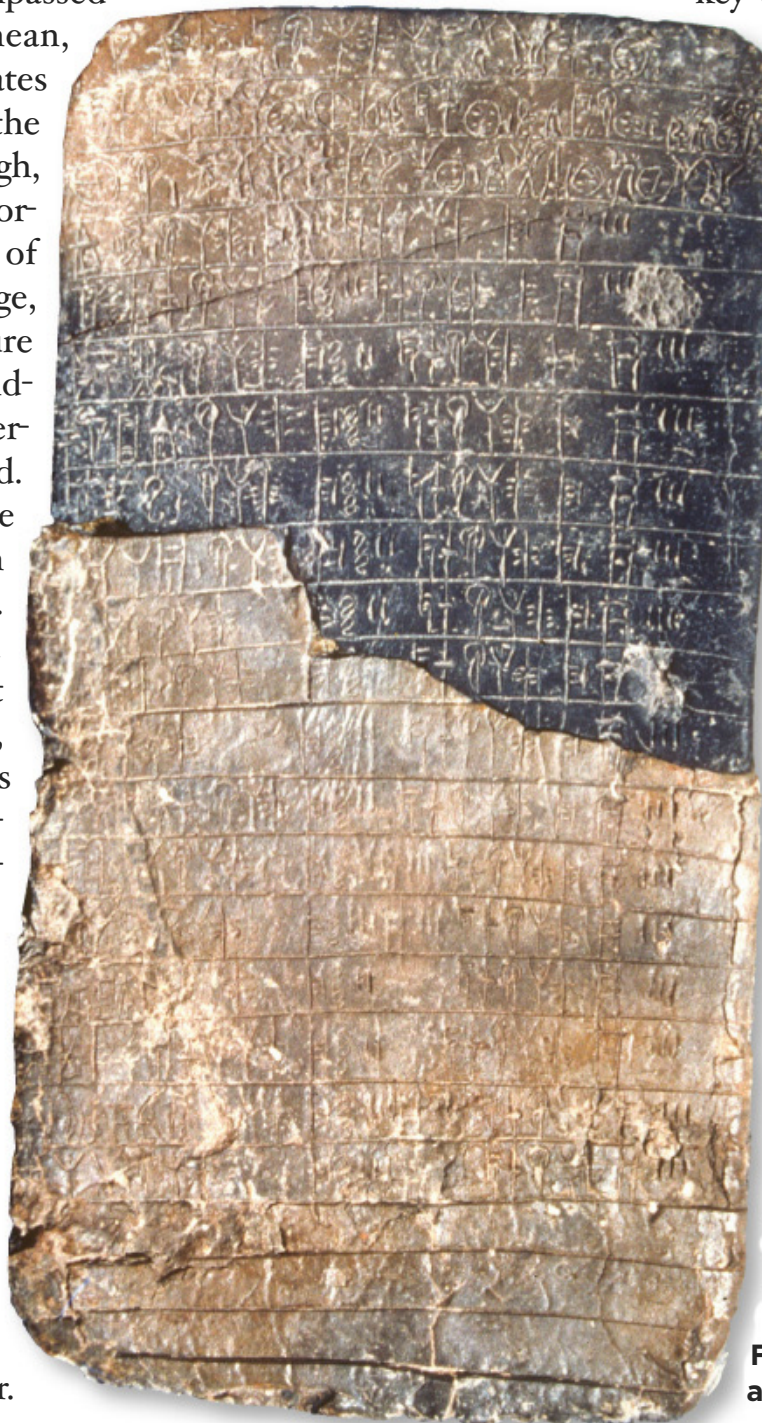


the early development of later classical Greek civilization. Excavations at Pylos, and at sites all across mainland Greece, have provided a great deal of evidence of the Mycenaeans in their prime. This research has revealed that at their peak they were tied into a world that encompassed most of the eastern Mediterranean, including ancient Egypt, the city-states of the Near East, and the islands of the Mediterranean. One such link, though, stands out as perhaps the most important: a deep connection to the island of Crete, which, in the Late Bronze Age, was inhabited by members of a culture scholars call Minoan after the legendary King Minos, a culture very different from that found on the mainland.

Scholars have long debated the nature of the relationship between the Mycenaeans and the Minoans. This discussion has centered on whether Mycenaean culture, and what is thought of as ancient Greek culture, dating to half a millennium later, was imported from Crete, or was a home-grown phenomenon. But the exceptional discovery of a man's grave filled with more than 2,000 artifacts just outside Nestor's palace in Pylos suggests that the concept of competing cultures might obscure a deep interconnectedness. "Archaeologists have a way of cutting the world up into well-bounded cultural entities, but it seems that in the Late Bronze Age new identities were being formed," says archaeologist Dimitri Nakassis of the University of Colorado Boulder.

"There used to be clear lines between the Minoans and the Mycenaeans, but a lot of work now points out that these are our categories, not theirs."

The extraordinary contents of this man's grave may be the key to understanding a far more complex development. Scholars are now beginning to believe that the shift from the Minoan to Mycenaean world may not have been a sharp transition achieved through colonization or conquest, but a more complicated process of cultural mixture and communication that only came to an end when mainland Mycenaean culture took over Crete around 1400 B.C. Says Jan Driessen, a Minoan specialist at the Catholic University of Louvain, "There's no way to overestimate the tomb's importance."

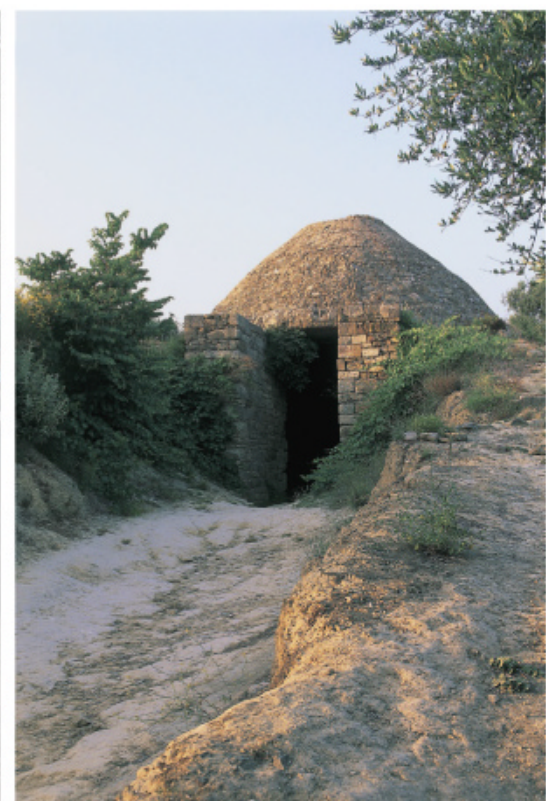


IN 2015, JACK DAVIS AND Sharon Stocker, both of the University of Cincinnati, were in their third decade of research in and around the palace of Pylos. The palace itself was discovered in 1939 and excavated in the 1950s and 1960s. Davis, Stocker, and their colleagues had been exploring the complex and the area around it since the early 1990s. Archaeologists think that by the thirteenth century

A Linear B tablet from Pylos found in 1939 records prospective contributions of recycled "temple bronze" from the "Nearer and Further Provinces" of Pylos' administrative district.



The Griffin Warrior's undisturbed grave (above right side of image) was found in an olive grove 200 yards from Pylos' Palace of Nestor. Nearby stands a tholos (above, far right), a type of beehive-shaped Bronze Age burial structure.



B.C. Mycenaean society was highly stratified, with a single ruler, called a *wanax*, who governed thousands of subjects living in and around his palace. Excavations at Mycenaean sites have traditionally focused on these royal complexes. Since the palace at Pylos can't be further excavated without damaging its well-preserved floors and walls, Davis and Stocker expanded their investigation, seeing an opportunity to uncover the remains of the town or settlement outside the royal and administrative center, as other researchers had at Mycenae.

Legal delays meant the team wasn't able to excavate where they had originally planned. "Forty people showed up, and we had nowhere to dig," says Stocker. Thwarted, they began investigating a stone formation nestled among the olive trees that surround the palace. Although the site was just over 200 yards from the palace's front gate, Davis says he didn't have high hopes for the area. He thought it might be the foundation of one of the palace's outbuildings, or a water storage tank.

As the excavators dug into the site's beige earth, they uncovered a few stones, and then a few more. Soon they were convinced they had discovered a grave. After days of digging, they uncovered a six-foot-by-three-foot shaft carved out of the hard clay. The first artifact the team found was a bronze vessel whose presence after thousands of years was an indication that the tomb hadn't been robbed. Over the next six months, Stocker and Davis discovered bronze weapons, finely crafted gold jewelry, carved seal stones, ivory inlays, beads, and much more, all buried with a single individual who, the team estimates, was between 30 and 35 years old when he died. Very early on, they unearthed an as-yet-unconserved ivory plaque decorated with a griffin that gave the man his name—the Griffin Warrior.

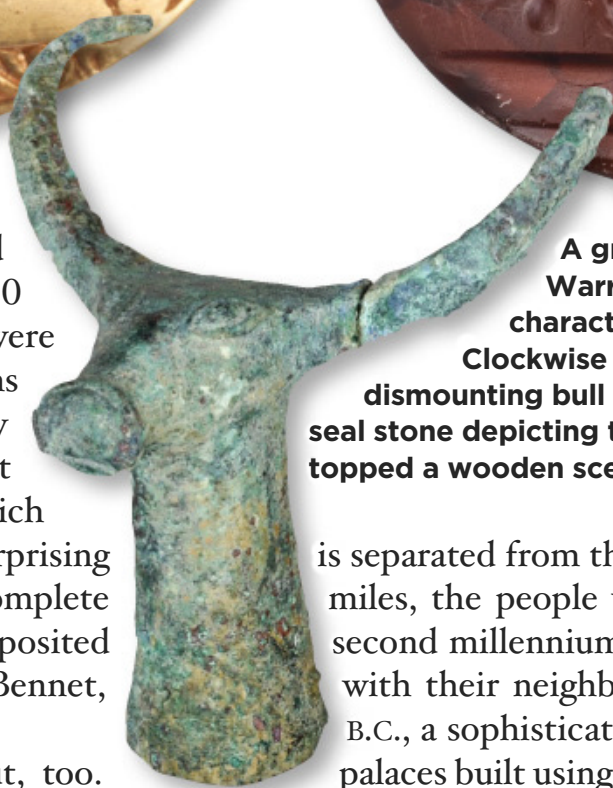
During the warrior's time, in the 1500s B.C., the Mycenaean

ans generally buried their prominent dead in huge, beehive-shaped structures called tholoi that were easily identified by tomb robbers. Thieves have taken a heavy toll on Mycenaean sites over the millennia, and the winding roads around Pylos are dotted with ruined tholoi, now just empty, stone-lined pits in the midst of sprawling olive groves. In fact, a tholos located near the Griffin Warrior's grave was damaged and robbed long before archaeologists excavated it in the 1950s, and only a few beads and a handful of small artifacts were found inside the structure. The Griffin Warrior's grave is a rare undisturbed exception, and Stocker is still amazed at the team's luck. Not only had the grave escaped the tomb robbers' notice, if it had been situated just a few feet in any direction, the roots of an olive tree would have penetrated and disturbed it.

The warrior's solo shaft burial was unusual for his time.



A gold ring from the warrior's burial depicts two female figures, the larger of whom, likely a goddess, sits on a throne and holds a stemmed object thought to be a mirror. A bird with a long, swallow-like tail perches on the throne, and the wavy lines at the top appear to represent the heavens.



Most contemporary Mycenaeans were interred in shared graves, sometimes with up to 20 people in a single grave or tholos. The tombs were periodically reopened and the human remains separated and shuffled around with each new addition to the family crypt. This has made it difficult for archaeologists to distinguish which artifacts were buried with whom. “What’s surprising in the case of the Griffin Warrior is to find a complete example where you know exactly what was deposited with this individual,” says archaeologist John Bennet, director of the British School at Athens.

The sheer number of artifacts stands out, too. Later Mycenaean graves, whether individual or shared, rarely contain riches on the scale of the Griffin Warrior’s. “That much concentration of wealth in a single tomb is shocking,” Nakassis says. “I keep thinking, ‘What are they doing? How do they have all this stuff?’” But the discovery in Pylos is significant not only for the survival, quality, and quantity of its finds, but also because the artifacts are encouraging scholars to reconsider this pivotal era, when mainland settlements such as Pylos were on the rise.

JUST 500 YEARS BEFORE the Griffin Warrior lived, in the Middle Bronze Age, it would likely have been easy to distinguish a mainlander from a Minoan. Although Crete



A side view of the carnelian seal stone depicting three bulls shows how such objects were drilled through to enable them to be worn on cords as bracelets.

A group of artifacts from the Griffin Warrior’s burial displays the bull imagery characteristic of the Minoans on Crete.

Clockwise from top left: a gold ring showing a dismounting bull leaper with flowing hair; a carnelian seal stone depicting three bulls; and a bronze bull that once topped a wooden scepter.

is separated from the Greek mainland by only about 100 miles, the people who lived on the island in the early second millennium B.C. did not have much in common with their neighbors across the Aegean Sea. By 1900 B.C., a sophisticated culture existed on Crete, boasting palaces built using finely cut stonework known as ashlar, a belief system that featured a central goddess figure and other divinities, and the widespread use of bull imagery in its art, none of which were in evidence at this time on the mainland. Excavations at Minoan sites on the island undertaken over the last century show that, starting in the late third millennium B.C., the Minoans’ trade networks were far more extensive than those of contemporary mainlanders. Artifacts found at such Cretan sites as Knossos include imported stone vases and jewelry from Egypt and the Levant, rare commodities on the mainland at this time. The Minoans further distinguished themselves from the mainlanders by their artistic prowess, particularly with regard to gold- and stonework. Minoan craftsmanship was, for centuries, superior to anything found on the mainland.

Nearly 150 years of archaeological excavations on the Greek mainland and Crete have shown that, beginning around 1600 B.C., the comparatively unsophisticated culture on the mainland underwent a radical transformation. “In time, there’s a blossoming of wealth and culture,” Stocker says. “Palaces are built, wealth accumulates, and power is consolidated in places such as Pylos and Mycenae.” The reasons for this leap forward are unknown. For a few centuries, the mainlanders imitated the Minoans. Pylos was an early Mycenaean power center, and buildings there at the time of the Griffin Warrior resembled

the large houses with ashlar masonry found at Knossos on Crete. “There were probably four or five fancy mansions in Pylos at the time of the Griffin Warrior, all very Minoan in style,” Davis says. For example, the mansions had painted walls, a type of artistry pioneered by the Minoans.

For a time, the Mycenaeans both imported Minoan luxury goods and incorporated Minoan symbols, including the bull, into their own art. The richest Mycenaeans were buried with

Minoan luxury goods, while some other graves included locally produced Mycenaean objects, such as painted pottery, that were often excellent-quality copies of Minoan originals. The Mycenaeans also borrowed the Minoan script, called Linear A, and adapted it to their own use; this script is now called Linear B. Mycenaean society, too, began to change shape. What began as a loose collection of small villages became more and more hierarchical, with power concentrated in the hands of the palace-dwelling members of society featured in the works of Homer.

When archaeologists first excavated the later phases of Minoan palaces in the very early 1900s, the direct parallels with sites on the mainland, including similar architecture, artifacts, wall paintings, and pottery, led them to think that mainland Greece might have been little more than a series of Minoan colonies. Minoans, these researchers thought, were the true founders of Mycenaean society, setting up trading outposts and exporting their palace-oriented social structure and distinctive script to a less-sophisticated mainland.

Half a century later, that interpretation was upended. When clay tablets found at Pylos and other sites, including Mycenae, were deciphered in the 1950s, the story was pushed in a completely different direction. Linear B resembled Crete’s Linear A, but recorded an entirely different language—Mycenaean Greek. It became clear that it was related to the language of the *Iliad* and the *Odyssey*, and, more distantly, to the other Indo-European languages, from Sanskrit to English. Scholars today can peruse the bureaucratic records left behind in the Palace of Nestor, while Linear A and the language it records remain an impenetrable mystery.

The discovery and decipherment of Linear B led scholars to rethink the

relationship between Mycenae and Crete. Not only were the Mycenaeans the true forebears of the ancient Greeks, scholars argued, they were indiscriminate thieves who imported or copied Minoan objets d’art without understanding their meaning or significance. “At the time, most scholars were thinking of hostile takeovers, not cooperative ventures,” says archaeologist Cynthia Shelmerdine of the University of Texas at Austin.



A bronze mirror (top) with an ivory handle and an ornate ivory comb (above) are among the artifacts from the grave suggesting that the warrior was a man of high status and was concerned with his appearance.

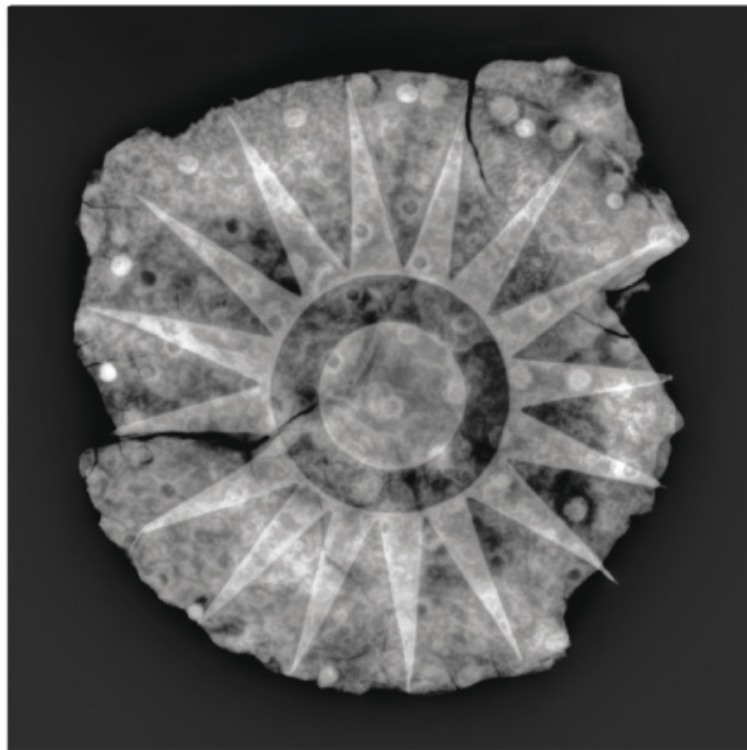
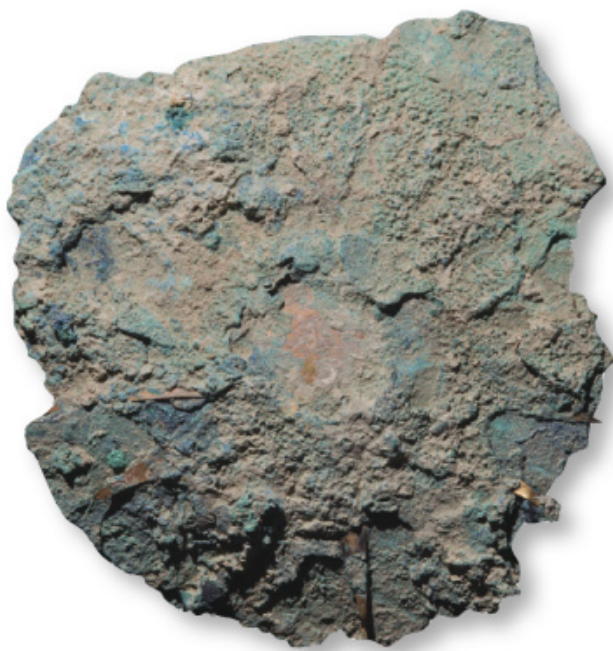
THE GRIFFIN WARRIOR'S grave and its contents are once again changing interpretations of the relationship between the Minoans and Mycenaeans. Much of this has been made possible by the fact that he was buried alone, and that his tomb was discovered undisturbed. This has allowed the team to both study the objects themselves and show how they were originally positioned. Among the thousands of artifacts from the Griffin Warrior's grave are Minoan-style seal stones of amethyst, carnelian, and agate. Other objects are harder to place, including a sword whose hilt is decorated with tiny gold staples, giving it an embroidered effect, and a boar-tusk helmet, a style of armor that Odysseus wears in Book 10 of the *Iliad* and that is found on both Crete and the mainland.

Stocker and Davis have spent the last several years building a case that the Griffin Warrior, and the people who

buried him, were not just avid collectors of Minoan art but were also highly clued in to its symbolism. "The Griffin Warrior is saying, 'I'm part of that Minoan world,'" Stocker explains. "There's a story we can get at with this burial that we haven't been able to before." Scholars agree that the grave is more than a random collection of Mycenaean and Minoan objects. "Here, Cretan art is being reused and repurposed in a local context," says Nakassis. "That tells us there was a strong connection between people living in Pylos and Crete, a highly informed network of goods, and probably of people, across the Aegean. These weren't unsophisticated rubes who didn't understand the beauty and grace of the art they were burying." Instead, they were deliberately creating a reflection of their worldview.

One notable category of objects buried with the Griffin

Warrior is seal stones—some 50 of them, made of semiprecious materials. The seal stones, originally used by the Minoans for administrative purposes, are miniature works of art, intricately decorated beyond any functional necessity. In fact, after the stones were cleaned and restored, Stocker's colleagues made impressions of their designs in putty and found that some of the detail is too small to see with the naked eye, even in the imprints. Many of the stones had been placed on the warrior's right side, some probably worn as part of bracelets, and others gathered in a bag or pouch that decayed long ago. The most spectacular seal stone, dubbed the Pylos Combat Agate, is just 1.4 inches wide. Davis and Stocker believe that the artist who created this seal stone was Cretan, because there is, thus far at least, no evidence that artisans on the mainland possessed the skill required to create such an object. The stone depicts a leaping warrior stabbing an armored, spear-wielding foe, while another lies dead at his feet. The scene, like those on many of the other



A heavily corroded bronze disk (top left) with gold foil decorations and an X-ray of the disk (top right) display a sun with 16 points that was likely attached to the warrior's armor. An agate seal stone from the grave (above left) and an impression in putty (above right) show two Minoan mythological creatures known as genii. Over their heads hangs the same 16-pointed celestial body.



A bronze sword (above left) with a gold-embroidered pommel from the grave and an image (above right) of the flowing-haired victorious warrior on the Pylos Combat Agate holding an identical type of sword

seal stones, is echoed by artifacts found in the warrior's grave, such as the weapons and scepter laid on his left side. "The sword the victor is using is the same as the sword the warrior is buried with," Davis says. Six ivory combs and a mirror in the grave suggest the warrior was concerned with his grooming, and perhaps had flowing locks similar to those of the stone's triumphant warrior. Like the agate's hero, the Griffin Warrior wore a gold necklace. There is also a nearly microscopic seal stone, less than two-hundredths of an inch across, depicted on a bracelet on the warrior's wrist. The seal stones in the grave were drilled through, as though to accommodate just such a bracelet cord.

The sheer number of carved rings and seal stones reinforces the idea that there was something more than mimicry going on. Driessen says seal stones such as those found in the Griffin Warrior's tomb were highly individual objects that were used by the Minoans for bureaucratic functions, such as to signal identity on official documents. A Minoan would have had one

ring or seal stone, or maybe two—but not 50. "It doesn't make sense to have fifty seal stones," Driessen says. "The Griffin Warrior was showing off, or maybe the ones who buried him were showing off. There's obviously Minoan influence, but I do think some of these objects were not used in the same way the Minoans used them."

Other objects, too, seem like conscious references to one another. One of four gold rings in the grave shows a Minoan-style bull leaper, echoing a bull's head once mounted atop a scepter buried nearby. On one seal stone a sun with 16 rays hangs in the sky above two otherworldly creatures with insect-like features, known to scholars of Minoan art as *genii*. Recent X-rays of a badly corroded bronze breastplate found on the warrior's legs show that the same 16-pointed star once adorned his suit of armor. "There's so much evidence that suggests that the Mycenaeans understood Minoan ritual concepts of power," Davis says. "It seems to us likely that some beliefs originating in Crete had been transplanted intact to Pylos, if not by Minoan missionaries, by converted mainlanders."

Driessen suggests that the idea of classifying art and artifacts as "Minoan" or "Mycenaean" at this time of cross-cultural ferment may not fully reflect the period's complexity. For example, he believes that mainlanders might have carved the seal stones themselves, having learned from Minoan artisans, or Cretan artisans may have emigrated to the mainland, bringing familiar iconography to new audiences. The connections between the iconography and artifacts have convinced Stocker and Davis that the Griffin Warrior was an informed consumer of Minoan-style objects, not an indiscriminate looter. Somehow, Stocker says, the Griffin Warrior functions as a kind of bridge between the Minoans and Mycenaeans that provides evidence of just how closely interconnected they were. "There's symbolic unity among the artifacts. We have things that match, assembled with intentionality," she says. "It's not randomly accumulated loot. It reflects a story that's been purposely acquired." ■

Andrew Curry is a contributing editor at **ARCHAEOLOGY**.

For more images of the Pylos Combat Agate, go to archaeology.org/griffinwarrior



A gold ring from the burial depicts a goddess descending from on high flanked by two birds alighting on rocky peaks.

The Minaret of Jam in western Afghanistan was constructed of baked brick in 1174. It is one of the few surviving buildings commissioned by the Ghurid sultans, who briefly ruled an empire that stretched from eastern Iran to northern India.



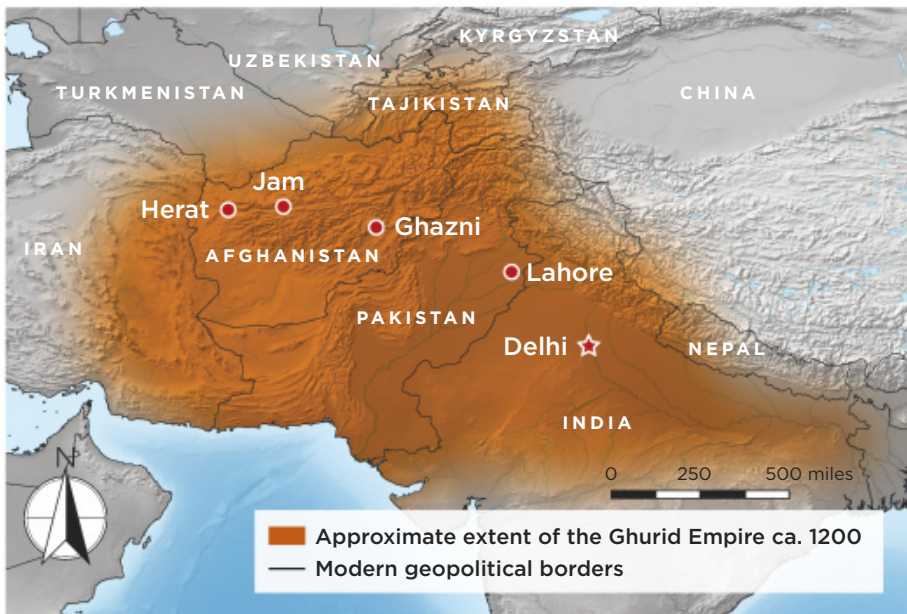
MINARET IN THE MOUNTAINS

**Excavations near a 12th-century
tower reveal the summer capital of a
forgotten Islamic empire**

by ERIC A. POWELL

IN THE REMOTE PROVINCE of Ghur in western Afghanistan, the Hari and Jam Rivers meet in a narrow valley where mountains tower 7,000 feet high over a seemingly impassable landscape. Far from any urban center, this valley is home to one of the world's great architectural monuments—a 200-foot-high minaret rising above the valley floor in what seems to be splendid isolation. Built in 1174 of baked brick, the Minaret of Jam is covered in intricate geometric brickwork, with verses of the Koran rendered in blue-glazed tiles. It is one of the few surviving buildings commissioned by the Ghurid sultans, a seasonally nomadic dynasty that, from 1148 to 1215, ruled an empire that at one point stretched from eastern Iran to the Bay of Bengal. “They are like a flare that burst from nowhere,” says David Thomas, a research associate at La Trobe University and director of the Minaret of Jam Archaeological Project (MJAP). “They knock over previously established dynasties, amass territory all the way to northern India, and then, bang, they are gone again.” Though today they are obscure even to many scholars, the Ghurids had a major impact on the trajectory of history in a region whose inhabitants continue to play a geopolitical role that belies their remote location. The recently published work of MJAP is placing a renewed focus on the Ghurids and providing an opportunity to reassess the history of a little-known people.

Thomas’ research is based on fieldwork he and his team conducted at Jam in 2003 and 2005. Extensive looting had exposed large areas of archaeological deposits to the elements, and officials tasked MJAP with investigating trenches that had already been illegally dug. The team’s work enabled them to confirm, after



many years of speculation, that the site of Jam was Firuzkuh, the Ghurid Dynasty's summer capital. "When you look at the site, it seems there is nothing there apart from the minaret," says Thomas. "But we've been able to marry together archaeological evidence and historical accounts that show this is Firuzkuh, and it gives us new insights into what a medieval nomadic capital looked like." The site has been inaccessible to researchers since MJAP's initial work, but Google Earth's aerial imagery has given Thomas the chance to identify additional possible Ghurid-period sites in the area, and to put Jam in a larger regional context. Analysis of artifacts and samples from the looters' holes has also given the team a compelling, if still incomplete, picture of life in the Ghurid summer capital, whose international reach and flourishing economy suggest this narrow valley in remote Afghanistan was once an important center. "It's not what we would expect a capital city to be like today," says Thomas. "But it can tell us a lot about who the Ghurids were, and how they thought about power."

AFTER THE ARAB CONQUEST of Central Asia began in the seventh century, most Persian-speaking and nomadic Turkic-speaking peoples in the area quickly converted to Islam. One notable exception were the pagan inhabitants of Ghur. Medieval Islamic sources describe them as hardy mountain folk who spoke a dialect of Persian and lived in isolation on the eastern edge of the Islamic and Persian worlds in the largest non-Muslim enclave in the Islamic world. By the eleventh century, however, a Turkic dynasty known as the Ghaznavids had managed to bring Ghur to heel. Islamic missionaries ventured into the mountains and converted the Ghurids. By the 1140s, the power of the Ghaznavids was on the wane, and an upstart branch of Ghurids from the Shansabanid tribe came to prominence. In 1148, a Shansabanid sultan led an army against the Ghaznavid capital of Ghazni, putting the city to fire and earning the sobriquet "World Burner." From there, the Ghurids expanded east and west, eventually establishing secondary capitals in the then-obscure city of Delhi on the northern Indian plain, and in the cities of Herat, in modern Afghanistan, and Lahore, in present-day Pakistan. Unlike other medieval Islamic dynasties, the Ghurids had corulers, and power was not inherited by descendants, but shared by multiple sultans who set up court in different locations throughout the empire. The senior sultans stayed in the Ghurid heartland, making their summer capital at Firuzkuh. They sponsored a building program that included erecting mosques, mausoleums, and madrassas, or Islamic schools, across what is now Afghanistan.

Their empire was short-lived. In 1199, people rioted in Firuzkuh, protesting the sultan Ghiyath al-Din's conversion from a conservative sect to a more moderate strain of Islam. Ghiyath al-Din then moved the capital from Firuzkuh to Herat, where he rebuilt a magnificent mosque, parts of which



Rising from a narrow valley and looming over the confluence of the Hari and Jam Rivers, the Minaret of Jam was long believed to be an isolated monument. Excavations of looters' holes at the site have revealed that the tower was once surrounded by a bustling capital.



A fortification tower at Jam was once part of a network of defensive structures that may have been intended to watch over the local population rather than outsiders.

still stand. But the end was near. In 1215, as political tensions threatened to tear the empire apart, a Turkic people known as the Khwarazmians descended on the fast-disintegrating state. In the Ghurid heartland, the Khwarazmians held sway for less than a decade. By 1222, the armies of Genghis Khan had penetrated the remote mountain fastness of Firuzkuh and destroyed the onetime Ghurid capital, leaving the Minaret of Jam as a solitary testament to the reign of the Ghurid sultans.

WHEN DAVID THOMAS and his codirector, University of Southampton archaeologist Alison Gascoigne, expanded the initial MJAP survey of looters' holes around the Minaret of Jam in 2005, they turned to recent satellite imagery of the site to guide their work. "The site was pockmarked with robber holes," says Thomas. "We only had a limited window of time in which to work, so we had to pick what to study carefully." One area that first drew their attention was a series of holes right next to the minaret.

There they quickly made a discovery that they believe has definitively established that Jam was the summer capital of Firuzkuh. Historical sources recorded that a great flood

destroyed a mosque at Firuzkuh around 1200. In a series of holes close to the tower, Thomas and his team discovered the remains of a large brick-paved courtyard that had been covered by river sediment in a single catastrophic event. "It was clear from the stratigraphy that layers of mud and gravel had been deposited by floodwater," says Thomas. "There was no question that we had evidence for this historical event, making it almost certain the Minaret of Jam was once part of the Firuzkuh mosque." Thomas notes that, while historical sources do briefly refer to the mosque itself, they make no mention of the minaret. "It's almost as if, back in the day, a magnificent tower like this was not out of the ordinary. It was just a typical part of the architectural landscape," says Thomas. "We know there were towers in other Ghurid centers, so chroniclers may just have not considered it remarkable enough to describe." Reports of a tall tower in the area were first noted in the late nineteenth century by British surveyors, but they were unable to go to the site. In the 1950s, a Belgian archaeologist, acting on a tip from an Afghan historian, visited the tower and publicized it widely.

The Ghurids and their contemporaries often erected towers to commemorate important victories, and it's possible that the Minaret of Jam was raised to celebrate a military triumph over the Ghaznavids or some other adversary. However, some researchers, including Thomas, believe there may have been a different inspiration behind the construction of the minaret. The main theme of the Koranic verses that decorate the minaret is Mary, the mother of Jesus, who is revered in Islam. There is evidence that a powerful woman in the Ghurid Dynasty commissioned a madrasa to the north of Jam, whose ruins still stand. Given the Minaret of Jam's emphasis of verses on Mary, perhaps a noblewoman was also responsible for commissioning the tower.

During their surveys and excavations of looters' holes, Thomas and his team found that the settlement around the minaret was once quite extensive, surprising many longtime observers of archaeology in the region, such as Warwick Ball, former director of the British Institute of Afghan Studies. "Like most, I viewed Jam as an isolated monument," he says.



Inscriptions of verses from the Koran on the Minaret of Jam are rendered in blue-glazed tile calligraphy. They include several verses devoted to Mary, the mother of Jesus.



Brick pavement (above) in a looters' hole near the minaret once covered the courtyard of a mosque destroyed in a flood. A pottery sherd (right) depicting a smiling figure was one of thousands of ceramic pieces recovered at Jam.

"Having visited the site, I assumed there was no room for a settlement of any extent." Previously, most scholars thought if Jam was indeed Firuzkuh, then it functioned as a symbolic center, a capital in name only. "David's work proved conclusively that there was a city, or at least an urban settlement, associated with the minaret—that it was a capital in practice as well as in name," says Ball. That discovery led Thomas and his team to speculate about why the Ghurid sultans chose such a rugged and remote spot for such an important center, which would have combined permanent structures with temporary encampments. Thomas notes that, along the Jam River a few miles to the south, there are sections of flat land where Ghurid nobles could have set up their tents with much greater ease. "Maybe there was a personal reason that had to do with the selection of the location. Or maybe they felt safe nestled in this river valley," says Thomas. "They were an incredibly adaptable and flexible people, and I think you see it in their choice of this valley as their capital, even if we don't know quite why they made that choice."

Thomas and his team excavated a series of other looters' holes located throughout the site to get a sense of how complex the capital was. They found one looters' hole dug into the middle of a substantial mudbrick house. A niche in the side of the structure still had an oil lamp that had been placed there more than 800 years earlier. "We think there were people in residence at the site year-round, despite the fact that the sultans were only here in the summer," says Thomas. "It would not have been very hospitable in the winter, but we think there was perhaps a caretaker population that watched over the capital in winter."

It's possible that some of the more permanent residents belonged to Firuzkuh's Jewish population, which left behind a substantial cemetery filled with headstones inscribed with Judeo-Persian text. During the medieval period, and well into

the twentieth century, most urban centers in Central Asia had significant Jewish populations. Historical sources also record a Ghurid tradition that bound the Jewish population to the success of the Shansabanid Dynasty. In one of the dynasty's legendary origin stories, a Shansabanid prince planned a journey to Baghdad to gain the support of the Abbasid caliphs, who then maintained nominal control of the Islamic world. It was said that the prince was aware that his mountain upbringing and rough-and-ready appearance and manners might not place him in good stead at the palace in Baghdad. On the journey he met and sought the advice of a Jewish merchant, who advised him on his attire and suggested ways to improve his manners. The Shansabanid prince then made a successful appearance at the Abbasid court and won support for his claim to the Ghurid sultanate. Thereafter, it was said, Jews were welcome in the Ghurid heartland.

Thomas and his team identified four Jewish headstones, which added to a collection of more than 70 that had been found by Italian researchers in the 1960s. All but six of the headstones recovered thus far memorialize men who lived between 1150 and 1220, the historically recorded period of occupation in Firuzkuh. That there are no headstones from



A niche in a late 12th-century house at Jam that looters had tunneled into still held an oil lamp where it had been placed by the house's original inhabitants.

the cemetery belonging to Jewish women suggests to Thomas and his colleagues that the men likely came to the capital without families, and perhaps married local non-Jewish women. The professions listed on the gravestones include goldsmith, teacher, and religious specialist, in addition to more workaday trades. Along with the dates on the gravestones, this suggests a long-lived community had put down roots at Firuzkuh and occupied the town year-round.

In addition, the variety of ceramics recovered from the site show that the prosperous capital was part of a far-flung trade network. Gascoigne, MJAP's pottery expert, identified fine ware not only from Iran, but also from China. "It's interesting to see how the population in this incredibly remote area was provisioned," she says. "Some of this pottery had come a very long way." The team also found elaborately molded water jars, one of which featured a humorous depiction of a smiling, puffy-cheeked individual. Some of the pottery they collected could have been



A gravestone inscribed with Judeo-Persian text is one of about 70 such markers that were once located in Jam's Jewish cemetery.

produced on-site. The team identified the remains of an industrial-sized kiln to the south of the settlement that may have been used to fire pottery, but they were unable to study it in detail.

Surrounding the capital was a complex system of mudbrick fortifications, much of which seems to have been designed without an external threat in mind. Thomas analyzed the views from the still-extant towers, and found that most of them did not command vistas that extended beyond the valley. Rather, many of the towers seem to have been constructed to conduct surveillance of the valley itself. Thomas speculates that the fortifications might have been built in the wake of the religious riots that swept Firuzkuh toward the end of the Ghurid Dynasty's reign. It's possible that even after the Ghurid sultan Ghiyath al-Din quit the remote summer capital for Herat, he wanted to keep an eye on his rebellious subjects in Firuzkuh. A network of fortifications intended to monitor threats inside the capital, rather than approaching foes, might have been a result of his concern. The sultan was perhaps right to be preoccupied with the possibility of internal instability. His successor was assassinated in 1215, an event that led to the collapse of the Ghurid Empire. It had lasted less than 70 years in all.

THOMAS AND HIS TEAM have been unable to conduct fieldwork since 2005 due to unstable political conditions in the region. Using Google Earth, Thomas has since identified a host of possible sites in central Afghanistan that could date to the Ghurid period, or may have been occupied and repurposed by the Ghurids. In 2014, Thomas and two Afghan colleagues identified an unrecorded tower not far from Jam. But confirming these sites will have to wait for a return to stability, which could be far off. In spring 2019, Taliban units advanced close to Jam and fought troops loyal to the Afghan government before retreating. Eighteen people were reportedly killed during the Taliban attack.

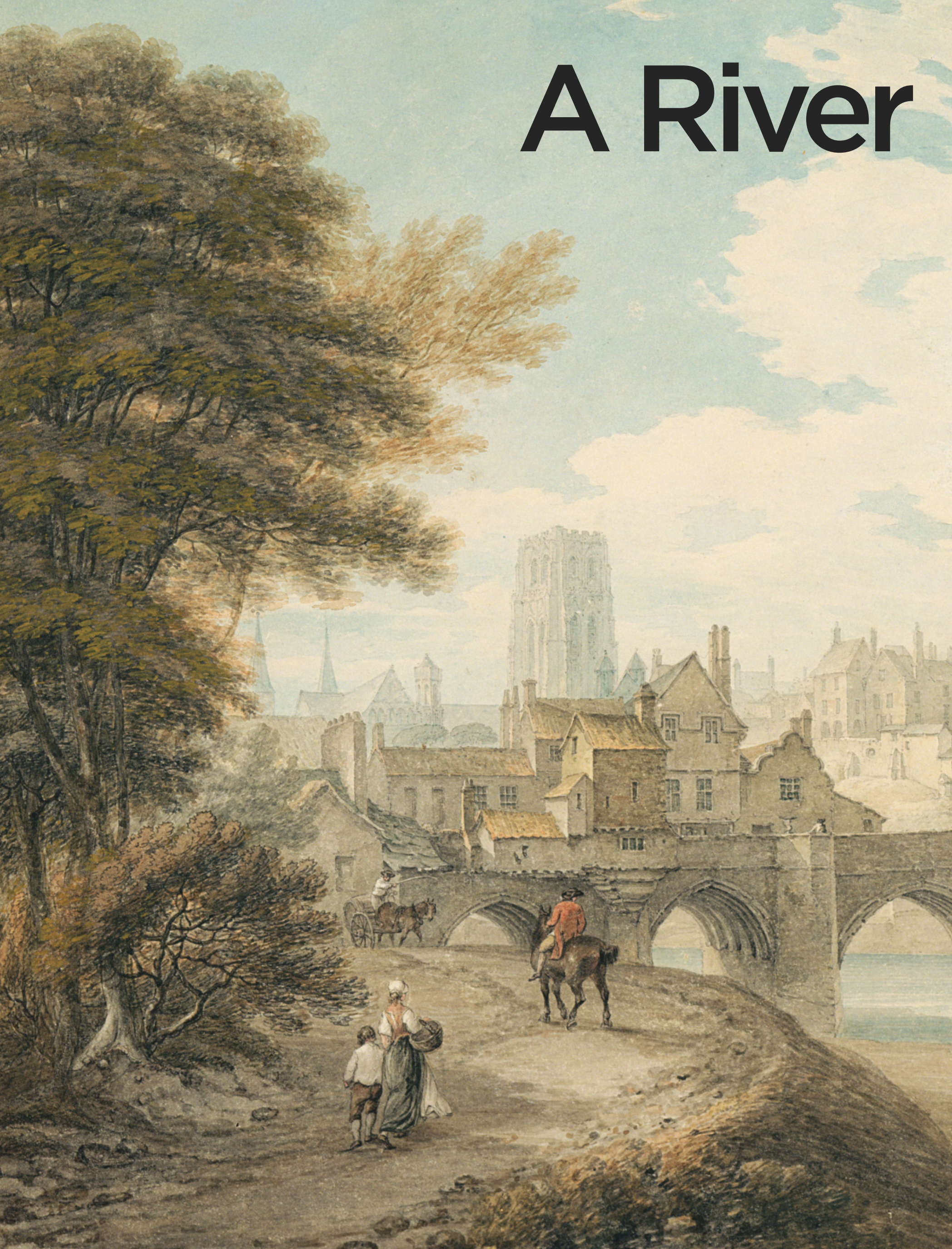
The Minaret of Jam is now listing dangerously and was also recently threatened by heavy spring floods. UNESCO has sponsored conservation work at the site in the past, and intends to continue to do so in the near future if security conditions permit. In the meantime, the work Thomas and his team conducted at Jam remains the most complete study of any Ghurid center in Afghanistan. "The robber holes should never have been dug in the first place," says Thomas. "But at least we were able to use them to learn more about the Ghurids. The remains at Jam tell us that while they were a tough, resourceful mountain people who needed to watch their backs, here in their heartland, they built a capital fit for a sultan." ■

Eric A. Powell is deputy editor at *ARCHAEOLOGY*.



A blue-tiled gateway in the city of Herat formed an entrance to a mosque rebuilt by the sultan Ghiyath al-Din after he moved the Ghurid capital from Jam to Herat.

A River



Runs Through It

The twists and turns of a medieval English city's history emerge from an artifact-rich riverbed

by KATE RAVILIOUS

FOLLOW THE WINDING ROAD from Durham Cathedral, a 900-year-old architectural masterpiece that dominates the skyline of this historic city in northeast England, and you'll eventually reach a narrow, cobbled twelfth-century stone bridge.

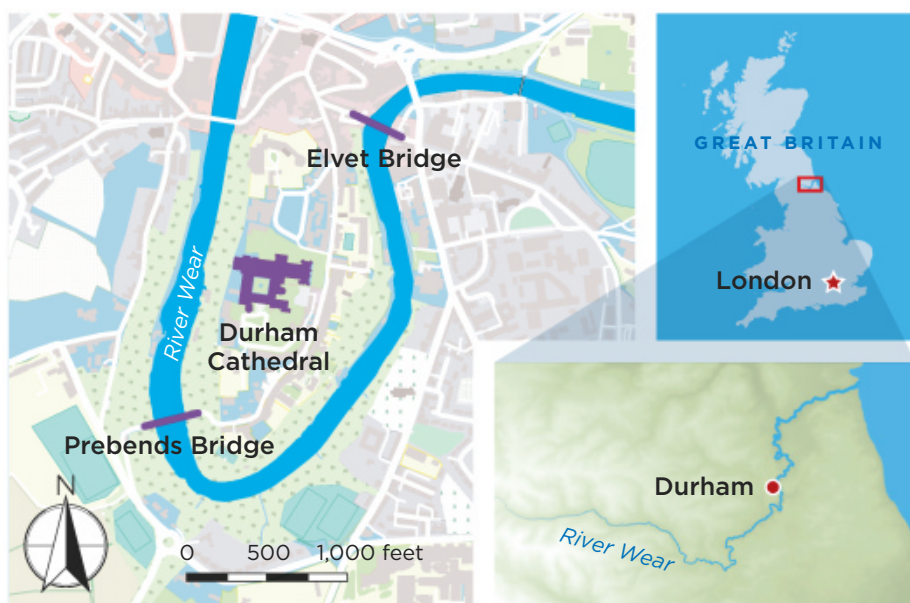
Known as Elvet Bridge, it stands 20 feet above the River Wear. When it was the main thoroughfare in and out of the city, the bridge was also the prime spot for merchants to sell their wares. If you happened to have crossed it in 1650 or so, you might have stopped at one of many wooden market stalls to choose some new coat buttons, seek out a remedy for an ailment, or perhaps treat yourself to a hair comb. The

bridge was only 16 feet across then—just wide enough for a horse and carriage—and, as a result, many traders built wooden booths overhanging the side of the bridge to store and display their wares. For at least one unfortunate trader, this precarious arrangement ended in disaster. A seventeenth-century account tells of a market hut on Elvet Bridge collapsing and falling into the river one night, its stock lost forever.

Or perhaps not quite forever. More than 400 years later, Gary Bankhead, an adventurous firefighter and keen diver, acquired permission to explore the riverbed underneath Elvet Bridge. Over the last nine years, Bankhead, who is now an honorary research associate at Durham University, has recovered



A late 18th-century painting shows the River Wear running under Elvet Bridge in Durham, northeast England. The city's 11th-century cathedral can be seen at the far left.



thousands of objects from the River Wear that span a period of more than 800 years. The collection includes pilgrims' ampullas, or small lead flasks filled with holy water, and seals attached to once-colorful textiles, as well as everyday metal objects such as simple buttons and coins. The artifacts are helping scholars gain new insight into the medieval traditions of pilgrimage and the veneration of saints. They have also revealed Durham as a prominent textile-processing center at the hub of an extensive European trade network, and have offered glimpses into the lives of ordinary citizens, moments that would have been considered too mundane to be described in written accounts. European archaeologists have previously recovered artifacts from the banks of rivers (such as the Thames in London) and from sediments extracted during construction (for example, the Amstel in Amsterdam) but Bankhead is one of the first to approach a river such as the Wear and use diving skills to investigate its archaeological layers. He's shown that while riverbeds lack the stratigraphy of sites on land or the clear context of shipwrecks underwater, the painstaking—and sometimes dangerous—excavation of urban rivers offers a new way to tell the stories of medieval cities.

The story of Durham itself is deeply intertwined with the River Wear, which cuts a tight loop through the city. Situated some 15 miles inland from the North Sea, Durham occupies a natural defensive point, perched on a hill-top and surrounded by the river on three sides, and has been settled for more than 4,000 years. In A.D. 995, a group of monks from the island of Lindisfarne arrived and made Durham into the cathedral city it is today. (See "Medieval England's Power Monastery" May/June 2019.) Fleeing the Viking invasions along England's northeast coast, the monks sought a safe resting place for the remains of the celebrated Saint Cuthbert, once the bishop of Lindisfarne. Since Cuthbert's death in A.D. 687, numerous miracles had been attributed to prayer carried out near his remains, and he had become one of the most revered saints in northern England. Following signs they believed to be from the deceased saint, the monks erected a shrine to house Saint Cuthbert's coffin on a high rock by the River Wear. In 1093, a Norman bishop ordered the construction of Durham

Cathedral on the same spot. Saint Cuthbert's remains are still interred there, now in a stone sarcophagus. During his life, the saint was known for his miraculous healing powers, and medieval pilgrims traveled from far and wide to Durham to pray for his help in curing all manner of diseases. Each day, hundreds of visitors still flock to the cathedral to admire its soaring vaulted interior.

MORE THAN A DECADE AGO, Bankhead was at loose ends when coastal waters were too rough to dive around shipwrecks, and his wife, Angela, suggested he explore the River Wear instead. Accompanied by his brother Trevor, and having obtained permission from the landowner, Bankhead donned his scuba gear and immersed himself in the river's cold and murky waters, hopping in downstream of the city's eighteenth-century Prebends Bridge, just a quarter mile south of the cathedral.

To their surprise, the brothers quickly discovered an ornamental silver trowel peeking out of the riverbed's gravel. An inscription on the trowel revealed that it had been presented to Michael Ramsey, the lord archbishop of Canterbury, by the Bengal Coal Company in 1961, when he laid the foundation stone of a church in India. Returning the following day, the Bankheads uncovered two more objects—a bronze cross and a large bronze baptizing spoon—that had also been gifted to the late Ramsey, who had retired to Durham.

With the Durham Cathedral authorities' permission, they continued searching, and over the following two years they found 32 more artifacts, all of which had been gifts to the former archbishop. These included a crucifix and gold and silver medallions presented to Ramsey when he attended the Second Vatican Council between 1962 and 1965. Exactly how and why these objects ended up in the Wear will never be known for certain, but it's possible that the archbishop, at a loss for what to do with all these gifts, quietly dropped them into the river.

For Bankhead, the archbishop's collection, which has now been returned to Ramsey's family, was curious and rather



Elvet Bridge was built in 1160 to connect central Durham to the borough of Elvet. Since 2011, some 13,000 artifacts have been recovered during excavations in the waters below the bridge.

poignant, but what really sparked his excitement were the older objects that sometimes emerged from deeper within the riverbed. “One day I discovered a Dutch East India Company coin dating to 1793, and I realized that I was finding objects that were as old as the nearby Prebends Bridge,” says Bankhead.

This led him to wonder what he might find beneath Durham’s older bridges. He decided to take a look downstream of Elvet Bridge, just north of the cathedral. It was constructed in 1160 to connect Durham’s central peninsula with newly built tenements in the borough of Elvet. On his very first dive, Bankhead discovered a 500-year-old silver penny minted during the reign of Henry VIII (r. 1509–1547).

At that point, Bankhead realized that he would need proper training to do justice to the potential riverbed finds, so he signed up for a degree in archaeology at Durham University. In 2011, by which time he had finished his undergraduate degree and embarked on a master’s, he started to map out the riverbed downstream of Elvet Bridge, and was soon carrying out excavations there. Bankhead excavated trenches in the silt that had accumulated in the approximately three-foot-wide and three-foot-deep channels that wend their way through the sandstone riverbed. Working during the summer or fall, when the waters were clearest, he used weights to keep himself horizontal and close to the riverbed. Despite the unconventional setting, he used conventional tools and techniques to work methodically down through the layers of sediment, photographing and documenting the location, depth, and context of every find. For Chris Caple, a Durham University archaeological conservator, Bankhead’s project was groundbreaking. “The cost of doing this work commercially would be astronomical,” says Caple. “Only when there is an interested individual with appropriate diving and archaeological skills who is willing to spend numerous hours in freezing water does something like this happen.”

OVER THE COURSE OF the last eight years and an estimated 500 hours in the Wear, Bankhead has excavated some 13,000 objects from the river. Perhaps the most telling of these artifacts are those that speak to Durham Cathedral’s prominent role as a pilgrimage center. Bankhead has uncovered 18 medieval pilgrim souvenirs nestled in the gravel beds downstream of Elvet Bridge. They include three lead ampullas, a Saint Augustine medallion, and a metal shell-shaped object from Santiago de Compostela in Spain. These souvenirs were probably purchased outside saints’ shrines and worn by

A silver trowel presented to the archbishop of Canterbury in 1961 and a 1793 Dutch East India Company coin were among the first objects found in the Wear.

pilgrims around their necks to carry some of the saints’ powers with them. Two of the ampullas still display iconography associated with saints. One came from Canterbury, home of the shrine of Thomas Becket, and the other from the southeastern village of Walsingham, where there are major shrines to the Virgin Mary. Both locations were important medieval pilgrimage destinations. Bankhead believes that the presence of these ampullas in the river in Durham suggests that pilgrims may have deliberately tossed their souvenirs into the water. “Their discovery certainly strengthens the developing theory that pilgrims may have thrown the ampullas in for superstitious reasons,” says Bankhead, “perhaps as an offering for their safe journey.”

Records show that by the fourteenth century, Elvet Bridge was flanked by two chapels. As an experiment, Bankhead threw lead weights into the river from the locations where each chapel once stood. The weights wound up near the spot where the souvenirs were found, suggesting that it’s plausible they were thrown in by pilgrims pausing at the chapels.

John Jenkins, a medievalist at the University of York, says the ampullas and medallions offer a look at how pilgrimages functioned in the late medieval era. “During the early period of the cult of saints, in the twelfth century, there are lots of miracle stories written down, and we have a good idea of what happened at pilgrim sites,” says Jenkins. “But, thereafter, not much is known.” The mass production of ampullas in later medieval Europe fits with the idea that the veneration of saints became a church-controlled activity with a commercial edge. “By the fourteenth and fifteenth centuries, few pilgrims got to touch the relics,” says Jenkins. Instead, pilgrims were encouraged to purchase offerings that they would place near a saint’s shrine as they filed past, or wear as signs of devotion.

Medieval pilgrims’ souvenirs discovered in the river include (from left) a small flask for holy water, a Saint Augustine medallion, a shell-shaped metal object, and a lead-alloy cross.





Everyday objects from the Wear include 17th- and 18th-century hair and hat pins (above), belt buckles (right), and a syringe (far right).

The pilgrim souvenir that most excited Bankhead is a lead-alloy pectoral cross that has strong parallels to a seventh-century object known as the Saint Cuthbert pectoral cross. That object, which is made of gold and inlaid with garnets, was discovered inside Cuthbert's coffin. The cross Bankhead found is similar in size and shape, but is imperfect, with uneven edges where molten alloy must have spilled out of the mold used to make it. "We know that goods were being sold from booths positioned on Elvet Bridge," says Bankhead. "It's easy to imagine a craftsman deeming this particular cross unsalable and throwing it into the river." The piece dates to the late fourteenth or early fifteenth century, when pilgrimages to Durham reached their peak in popularity. It's likely pilgrims at this time crowded the narrow bridge, looking for souvenirs and rubbing shoulders with citizens of Durham out on their own shopping expeditions.

Many secular artifacts Bankhead has found underneath the bridge were probably either sold or used in this bustling market. Children's toys, weights for measuring gold, lead trade tokens employed as small change during currency shortages, and even some fearsome-looking metal syringes have emerged from this area of the riverbed. The syringes probably belonged to eighteenth-century barbers, who doubled as surgeons and used them to inject mercury into patients' bladders to treat venereal diseases.

Some two-thirds of the artifacts are dress accessories. Pins that ladies would have worn in their hats or hair are common finds, and demonstrate changing fashions over time,

from the plain examples of the late fourteenth century to more decorative twisted pins of the early sixteenth century. Around two-thirds of the 1,000 buttons and buckles Bankhead has found do not appear to have ever been worn, and possibly wound up in the river by accident. They could even be the stock of the unfortunate seventeenth-century trader whose shop collapsed into the river.

For Caple, these objects are the most exciting finds to emerge from the Wear. "They tell us about the small things that impacted the everyday lives of people in Durham—their jobs, their loves, their fashion mistakes, their children, their illnesses, and their deaths," he says.

NOT EVERYTHING BANKHEAD has found in the river is linked to Elvet Bridge. Until now, scholars have considered medieval Durham to have been primarily a cathedral city, but some 315 lead cloth seals Bankhead has discovered scattered across the riverbed downstream of Elvet Bridge reveal that the city also supported a thriving textile-dyeing industry that was much more extensive than previously suspected.

The equivalent of a modern-day trademark, these small lead discs were attached to bolts of textile and stamped with a merchant's mark or royal emblem. Local authorities across Europe used this type of seal between the thirteenth and eighteenth centuries as a means of identification, and a way of controlling quality and regulating trade. By the time a piece of cloth was finished, it could have as many as six different seals attached to it, confirming approval of different guilds such as weavers, spinners, and dyers, as well as by the royal inspector of cloth. The free-flowing waters downstream of Elvet Bridge would have been an ideal location for dyers to rinse their bolts



A lead cloth seal (left) from Europe, a piece of cloth (center) attached to that seal, and a lead cloth seal from Bavaria (right) showing a pinecone are among the artifacts from the river associated with the textile industry.



A collection of objects (above) belonging to the Durham County Constabulary dating to between the two world wars, and a 1902 print block (right) for a cocoa advertisement are among the more recent artifacts discovered in the River Wear.

of cloth, removing excess dye. “It’s easy to imagine that some of the flimsily attached seals on the cloth just fell off during the rinsing process,” says Bankhead. Probate records show that dyers were active in Durham, but the large number of cloth seals recovered by Bankhead suggests that textile dyeing was more prominent than the records suggest. In fact, the city may have been a regional center for textile finishing.

Many of the lead seals have distinctive logos that identify the cloth’s provenance. Bankhead and his colleagues have been surprised by how widespread the trade network seems to have been. Not only do the seals show that cloth was arriving from British mills, but also that a significant amount was being imported from present-day France, the Netherlands, and Belgium. One vivid example of how far some of the cloth traveled is offered by 36 cloth seals decorated with a pinecone motif, the heraldic badge of the city of Augsburg in Bavaria, southern Germany, more than 900 miles from Durham. The cloth that these seals were attached to was likely shipped up the Rhine to Amsterdam or Rotterdam, and then across the English Channel to London, then up the North Sea coast to Durham. While the city was evidently part of an international textile network for some time, by the late eighteenth century, Durham found itself unable to compete with the steam-powered mills of Yorkshire, and its textile industry began to disappear.

THE RIVER WEAR CONTINUED to act as a record of the daily life of the people of Durham into the nineteenth and twentieth centuries. Some of the more recent and unusual objects that Bankhead has recovered include a bullet from the 1879 Anglo-Zulu War and a print block for a cocoa ad from 1902. Over the years, he has also found three Durham police collar numbers, buttons from a police uniform tunic, and a police whistle, all of which date to the years between the world wars. However, he has found no records of police activity in the river during that time, and it remains a mystery as to how and why the law enforcement-related artifacts ended up in the Wear.

In the summer of 2019, Bankhead returned to the river and reopened a trench in which he discovered five more pilgrim souvenirs. He intends to conduct two more dives in order to finish excavating that trench and then plans to move on from the River Wear. The techniques he’s developed to excavate Durham’s urban watercourse can be applied elsewhere. And he and his colleagues believe that other rivers, yet unexplored, could prove to be untapped archaeological resources. “The River Wear has provided a unique 900-year grab box of small things forgotten,” says Caple. “There will be other rivers out there with similar stories to tell.” ■

Kate Ravilious is a contributing editor at *ARCHAEOLOGY*.

Piecing Together a God's Journey

By tracking a Mesoamerican sculpture's lengthy voyage from Mexico to Denmark, researchers discover its true identity

by BENJAMIN LEONARD

RICHLY DECORATED Mesoamerican artifacts have filled Italian collections for hundreds of years. Once displayed in noble families' "cabinets of curiosities" as exotic creations of the distant New World, by the nineteenth century, many such objects had been installed in newly founded ethnographic museums, where they were placed alongside antiquities from much older civilizations. Davide Domenici, a historical anthropologist at the University of Bologna, has long been fascinated by a particular type of mosaic-covered Mesoamerican sculpture. Recently, he began to wonder how these sculptures had made their way to Italy. For some of the artworks, the clues lay, in part, close to home. "My office at the university is the very room where some of these objects were displayed before they were moved to Rome's Luigi Pigorini National Museum of Prehistory and Ethnography in 1885," he says. "That's one of the reasons why I felt pushed to investigate their history."

Domenici began his quest by focusing on a number of turquoise-covered Mesoamerican objects that he knew had once been in Bologna, Florence, and Rome. He searched Italian archives and museum inventories for evidence of their provenance, and discovered that at least some of them had been brought to Italy in the sixteenth century by Dominican missionaries. His research yielded specific references to one of the artifacts, described as a mask, that was once in Italy, but is now in the collections of the National Museum of Denmark in Copenhagen. Domenici was surprised to learn that this artifact had never been thoroughly studied, despite



the fact that the object, along with others like it, offers some of the best evidence for understanding preconquest Mesoamerican religious beliefs and practices.

The hollow wooden artifact measures just 10.6 inches tall, and is covered in a mosaic made of turquoise and other semiprecious materials. Although it's unclear how the sculpture was used, a circular socket at the bottom indicates that it may once have been attached to a ritual staff or baton. Other turquoise-covered objects have been discovered in the central Mexican highlands, but the finest examples, of which this is one, are all in European collections, disconnected from their original context. Domenici set out to see if he could figure out where the mask might have originated. He also wanted to determine the identity of the snub-nosed deity it depicted. For at least the past century, the object has been taken to represent Tlaloc, an Aztec rain and storm god, or Ehecatl, a wind god who is an avatar of the feathered serpent god Quetzalcoatl. What Domenici found would transform scholars' understanding of this object and its more than 500-year-long journey.

CONVINCED THAT THE only way to solve the mystery of the artifact's transatlantic crossing was to work backward from its final stop, Domenici went to Copenhagen in 2017. There he enlisted the help of Jesper Nielsen, a Mesoamericanist at the University of Copenhagen. Together, they began to trace the object's history using the National Museum's records. The pair found that the museum had acquired the object at a London auction in 1856, along with another mosaic-covered "mask" also now in its permanent collection. That sculpture depicts a human head peering out from a reptile's open jaw, perhaps meant to evoke a person donning a mask of the serpent deity Quetzalcoatl. Nineteenth-century museum inventories indicate that both objects had traveled to London from Rome, where they had probably been brought by a Spanish missionary. That the two artifacts had once been in Rome was seemingly confirmed by the writings of nineteenth-century cultural anthropologist Edward B. Tylor. In his 1861 book *Anahuac*, Tylor mentioned that the items had been obtained from a convent there.

Other documents showed that in 1532, a Dominican friar named Domingo de Betanzos traveled from central Mexico to Rome for an audience with Pope Clement VII. During Betanzos' visit he stayed at the convent of Santa Maria sopra Minerva. On that occasion, and on a subsequent voyage to meet the pope in Bologna a year later, Betanzos brought gifts of meticulously crafted objects and illustrated books known as codices created by the people he lived among in the New World. According to two sixteenth-century written accounts of Betanzos' visits, the pontiff was impressed by the objects' fine craftsmanship. Says Domenici, "The natives' technical abilities were perceived as proof of their rationality and humanity, of the very possibility of converting them to Christianity."

Two views of a wooden mosaic-covered sculpture depicting a Mesoamerican deity. Based on details (left) such as the fangs, protruding tongue, thick eyebrows, wrinkled mouth, and red, black, and white vertical stripes above the figure's eyes, researchers have suggested it depicts the dog god Xolotl. The sculpture's hollow back (right) indicates it once was likely attached to a staff.





Betanzos was among the first Dominican missionaries who traveled to central Mexico in the 1520s to convert the local people. This region had once been under the control of the Aztecs, who, in the fourteenth century, had built a capital at Tenochtitlan and begun drawing the surrounding territories into their orbit. In the sixteenth century, when Betanzos arrived, it was home to the Eastern Nahuatl people, who spoke the Aztec language Nahuatl, and the non-Nahuatl-speaking Mixtec. Before the arrival of the Spanish, during the Late Postclassic period (A.D. 1200–1519), this was an area of intense interaction among members of its various cultures. “There were lots of intermarriages between Nahuatl and Mixtec noble families,” says Domenici. This resulted in a local artistic style that combines Aztec, Nahuatl, and Mixtec elements.

In central Mexico’s temples and ritual caves, the missionaries found colorful feathered headdresses, razor-sharp knives, codices, and turquoise-encrusted masks through which, the missionaries claimed, demons spoke to the natives. The Dominicans often destroyed the masks, along with other indigenous religious and cultural items. The two Copenhagen wood sculptures are similar stylistically to artifacts known to have been created by the Aztec or Mixtec during the Late Postclassic period in the region encompassing the modern Mexican states of Puebla, Tlaxcala, and Oaxaca. “That area was the very center of Dominican activity in New Spain,” says Domenici. “It would make sense that missionaries brought objects to Italy from the region where they were working most intensely.”

In fact, the convent of Santa Maria sopra Minerva, where Betanzos stayed while he waited for his 1532 audience with the pope, came to be closely linked to Vincenzo Giustiniani, the leader of the Dominican order between 1558 and 1570. Giustiniani hailed from a noble Roman family whose private art collection, according to early seventeenth-century records, included an array of Mesoamer-

ican artifacts, among them wooden objects covered in mosaic tiles. Based on these strands of archival and stylistic evidence, Domenici believes that the Copenhagen sculptures could have been among the Mesoamerican artifacts that Betanzos brought with him on one of his voyages to Italy. He may have left them at the convent, from where they were later added to the Giustiniani collection, and then auctioned off in London before finally arriving at the museum in Copenhagen.

HAVING MORE SECURELY established the objects’ provenance, Domenici and Nielsen turned to their iconography and function, focusing on the sculpture previously identified as Tlaloc or Ehecatl. “We decided to take another look at the object and discovered that others had missed quite a few things about it,” says Nielsen. Upon closer inspection, the researchers noticed several details of the sculpture that aren’t typical in depictions of either Tlaloc or Ehecatl, such as the protruding tongue and thick eyebrows. Previous drawings of the sculpture had exaggerated its eyebrows into circular goggles surrounding the eyes—a distinguishing feature of Tlaloc—which provided the primary evidence for identification of the figure as the storm god. However, the stylistic elements Nielsen and Domenici observed were, to them, reminiscent of a different deity. “We had one of those incredible moments when we were both staring at the object, and, at the same time, we turned to each other and said, ‘This is not Tlaloc—this is a dog, this is Xolotl,’” says Domenici.

Knowledge of the Mesoamerican pantheon relies chiefly on colonial sources that describe—and demonize—the prominent gods, but record considerably less information about more minor deities. “Xolotl is a supernatural figure shrouded in a bit of mystery,” says Nielsen. “Mesoamerican deities rarely fit into neat boxes like the gods we know from ancient Greece and Rome.” Instead, Mesoamerican gods often had multiple roles and appeared in various forms, often causing confusion as to their identity.

In Mesoamerican mythology, Xolotl was closely linked with Quetzalcoatl. But whereas Quetzalcoatl was associated with abundance and prosperity, Xolotl was seen as his darker twin, and is often depicted as monstrous and deformed. The two gods were viewed as opposite aspects of the planet Venus: Quetzalcoatl as the Morning Star and Xolotl as the Evening Star. “It’s the most graphic astrological expression of the duality that Mesoamericans perceived in many natural phenomena,” says Domenici. Art historian Elizabeth Hill Boone of Tulane University



A wooden, mosaic-covered Mesoamerican sculpture depicts a human head in a reptile’s open jaws.

notes that Xolotl and Quetzalcoatl share much of the same iconography and are even conflated in some Mesoamerican creation stories. “According to various legends, Quetzalcoatl went down into the underworld to receive maize,” she says. “But some accounts hold that Xolotl helped, or even did it himself.”

Domenici and Nielsen zeroed in on several of the sculpture’s features that were strikingly similar to other representations of Xolotl in Aztec, Mixtec, and Nahua art. The canine’s rounded nose and protruding tongue are commonly found on Aztec ceramic figures and stone sculptures of the god, as are the wrinkles on the left side of its snout. Although the tesserae that once covered this part of the object are now missing, wrinkle lines were carved into the wood, likely as a guide for the artist applying the tiles.

It was in the sacred Mesoamerican books, however, and especially the five codices known as the Borgia Group—which are among the few extant manuscripts to predate the Spanish conquest—that Domenici and Nielsen found the last pieces of evidence they were looking for. Mesoamerican codices are divinatory manuals containing almanacs and ritual protocols tied to units of time from the tonalpohualli, the 260-day calendar widely used by the cultures of pre-Columbian Mesoamerica.

Information in the codices was relayed almost entirely through shared imagery and symbols that would have been intelligible to an Aztec calendar priest and a Mixtec calendar keeper alike. “These books contained the most esoteric knowledge that the Aztecs and their neighbors had about the cosmos,” says Boone. “The supernatural world was integrated into the natural world, so these books allowed a calendar priest or keeper to determine what forces were at work.” For example, in the days after a child was born, she explains, calendar priests examined the codices to predict a child’s tendencies. The priests also consulted the books to determine when to plant and harvest crops.

The curved white fangs on each side of the Xolotl sculpture’s mouth and the three vertical stripes of red, black, and white above its eyes also



Xolotl is shown in this reproduction drawing of a page from one of the Borgia Group codices, which researchers believe were created in the same region as the dog god sculpture. Many iconographic elements, including the tongue, fangs, wrinkles, and facial stripes, match those on the sculpture.

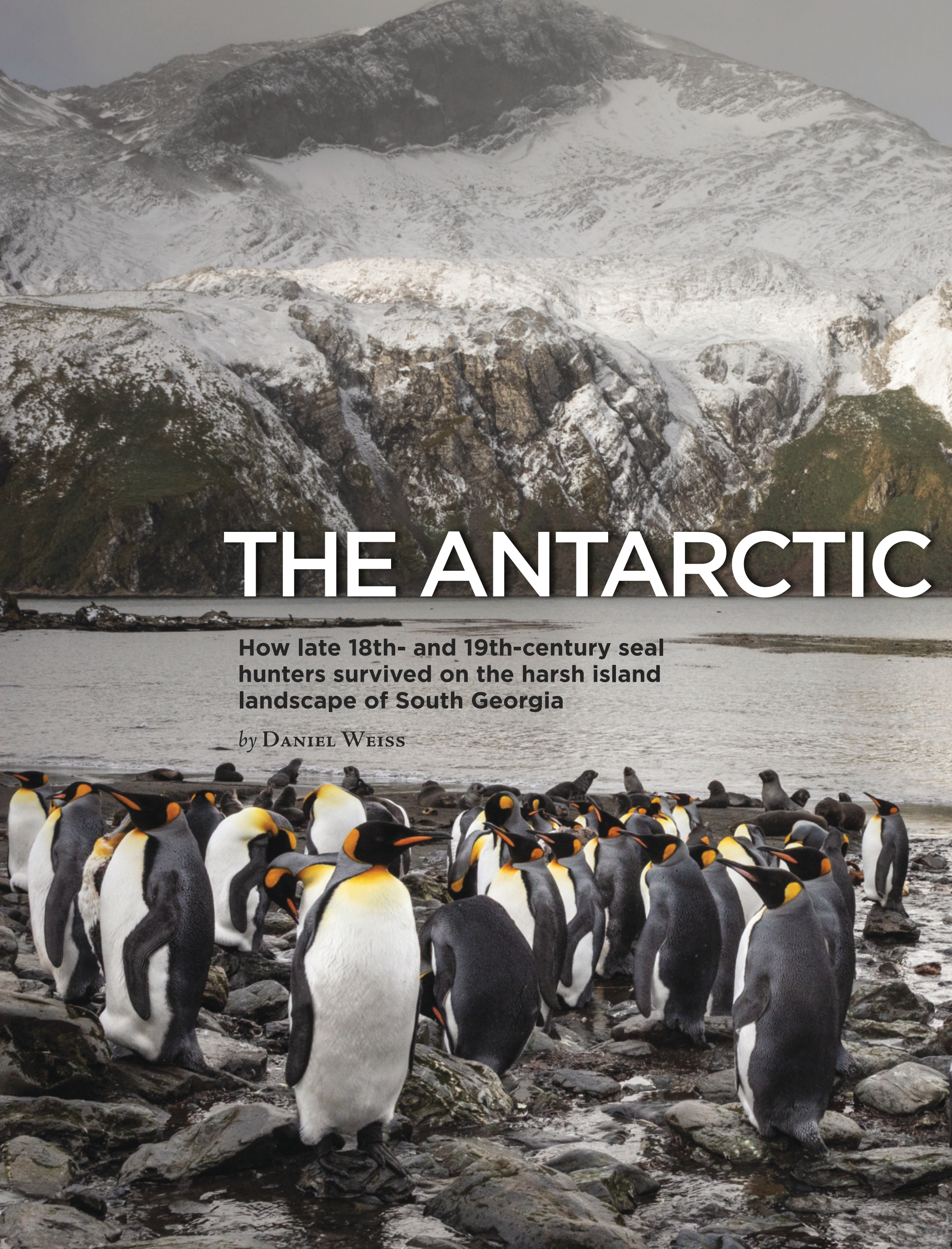
appear in images of the god in the Borgia Group. These iconographic parallels between the depictions of Xolotl on the mosaic sculpture and in the Borgia Group codices strongly suggest they were all produced in the same region during the same period.

Domenici and Nielsen have discovered yet another intriguing, previously undiscussed element of the sculpture’s decoration. On the front of Xolotl’s headdress, they noticed a glyph depicting the number three below a dog’s ragged ear. The same glyph appears in one of the Borgia Group codices. “3 Dog” is a day sign that, in the tonalpohualli, is halfway through Venus’ 584-day-cycle from “9 Wind,” the day associated with Quetzalcoatl. Thus, the 3 Dog day sign characterizes Xolotl as the opposite or dark twin of Quetzalcoatl. For Domenici and Nielsen, this was another marker of the duality of the two deities and the final confirmation that the being depicted by the sculpture is, in fact, Xolotl. ■



A mask representing Yacatecuhtli (“The Nose Lord”), the god of merchants, was one of the objects brought to Bologna by the friar Domingo de Betanzos when he met with Pope Clement VII in 1533. It is now in the Luigi Pigorini National Museum of Prehistory and Ethnography.

Benjamin Leonard is a senior editor at *ARCHAEOLOGY*.

A large colony of King penguins is gathered on a dark, rocky shoreline. The penguins, with their characteristic black, white, and yellow-orange plumage, are standing and looking in various directions. In the background, a calm body of water stretches towards a massive, rugged mountain covered in patches of snow and ice. The sky is overcast and grey.

THE ANTARCTIC

**How late 18th- and 19th-century seal
hunters survived on the harsh island
landscape of South Georgia**

by DANIEL WEISS

In the 18th and 19th centuries,
the beaches of South Georgia, a
desolate 100-mile-long island in the
South Atlantic Ocean, were prime
hunting grounds for the lucrative—
and hazardous—seal trade.

HUNT



IN LATE 1815 IN LONDON, Thomas Smith, then about 16 years old, signed up as an apprentice on *Norfolk*, a 650-ton former warship that had passed into private hands. Smith had heard that the vessel was bound for Africa in search of gold and ivory, an impression reinforced by eager talk among the more experienced sailors of hunting down huge elephants. As the ship sailed south, the youngster learned that *Norfolk*'s actual destination was South Georgia, a bleak, windswept island in the South Atlantic Ocean some 1,200 miles east of the southern tip of South America. There, he would indeed be hunting elephants—sea elephants, or elephant seals, as they are now known.

Smith hung back warily during the first attack on a herd of elephant seals, enormous beasts that weigh up to five tons, but found there was little to fear. The seals “commenced snorting and some of them roaring, at the same time [that] most of them were endeavoring to make their escape into the water,” he writes in his autobiography. “Poor innocent animals! I could not but pity them, seeing the large tears rolling down from their eyes; they were slaughtered without mercy.” Far more dangerous, Smith would learn, were the harsh conditions of the 100-mile-long island where he and his fellow crewmembers had to fend for themselves for days or weeks on end while hunting elephant seals, whose blubber they rendered into oil, as well as fur seals, whose pelts they harvested.

During an unsuccessful attempt to locate Antarctica, in January 1775, famed explorer Captain James Cook surveyed South Georgia, claimed it for Britain, and named it in honor of King George III. Cook wrote the island off as a largely barren, unpromising spot, with forbidding, icy mountains rearing up into the clouds, and the valleys between covered in snow “many fathoms deep,” even though it was the height of summer. Despite lying 900 miles northeast of the Antarctic Peninsula, South Georgia is south of the Antarctic Convergence,



the boundary between frigid Antarctic waters and warmer subantarctic waters, leading to cooler temperatures. “Not a tree was to be seen,” Cook writes, “nor a shrub even big enough to make a toothpick.” The explorer did note, however, that the island’s beaches teemed with seals, or “sea bears,” along with the largest flocks of penguins he had ever seen.

British sealers began to target the marine mammals in 1786. American hunters from New England soon joined them. For the next few decades, South Georgia was the scene of an entirely unregulated, unbridled frenzy. Each year, up to 20 ships would arrive during the seals’ breeding season, in the southern hemisphere’s summer, fill their holds with oil and sealskins, and sail off to sell their goods in London, New York, or Canton, in southern China. In the pre-petroleum era, seal oil was in steady demand and was used for lighting and lubrication, and for treating leather, rope, and textiles. Prices for sealskins were more variable, though Smith reports that the pelts harvested on his first voyage to South Georgia sold for a respectable £2 apiece. (See “The Fur of the Sea Bear” on p. 52.)

“As often happens with sealing, a new ground is found and very rapidly overexploited, causing the seal population to collapse,” says Robert Burton, a natural history writer who has studied seals on South Georgia and in the broader Antarctic region. By the early 1820s, the island’s seal population had been seriously depleted, and the sealers moved on to more promising terrain. British sealer and Antarctic explorer James Weddell estimated that, by this time, at least 1.2 million fur-seal pelts had been taken from South Georgia. Sealers returned later in the century when the seal population rebounded, but the catch was never again as high as it had been during those first few, overwhelmingly bountiful, decades.



Fur seals cover the beaches of South Georgia. Their activity, along with that of elephant seals, threatens to destroy the archaeological remains left behind by the sealers who once hunted the marine mammals during the 18th and 19th centuries.



A brick and stone hearth was revealed during a recent excavation in front of three cast-iron try-pots used to render elephant seal blubber into oil.

JUST OVER TWO CENTURIES after Smith first sailed to South Georgia, in February 2019, a team of archaeologists from the Cambridge Archaeological Unit (CAU) of the University of Cambridge traveled to the island. The rusting ruins of a number of early twentieth-century whaling stations on South Georgia have been the focus of archaeological study since 1989, but until now, the far more elusive traces of sealing, the island's earliest industry, have gone unexplored. During a three-week expedition organized by the South Georgia Heritage Trust, with Burton serving as project manager, the CAU team uncovered evidence at a number of coastal sites of how late eighteenth- and nineteenth-century sealers, like those on *Norfolk*, processed their prey and took shelter from the island's extreme weather.

Although the archaeologists endured far less arduous conditions than the sealers, they faced a number of unusual challenges. The physical remains found so far at sealing sites have been scant, possibly because they were used for only a portion of each year, and the sealers, who possessed few material goods, had to bring everything they used ashore by boat. With 19 landing spots on their itinerary, the team frequently had a day, or even less, to investigate a given site, and time could be cut even shorter by an unexpected storm. Drones operated by the South Atlantic Environmental Research Institute helped survey more territory as part of a coastal mapping project carried out in partnership with the expedition. But they, too, were grounded at times due to inclement weather. The archaeologists also had to contend with—at times amusing—interference from the island's wildlife. They would turn their heads to find a snarling fur seal charging with unexpected speed, look up to see a petrel flying off with one of their camera cases, or lay down a grid, only for a penguin to trip over the tape and tear it up.

Documenting the remains of the sealing industry has grown urgent in recent decades as they are in danger of disappearing. Twentieth-century whalers hunted elephant seals on South Georgia as a sideline, but both sealing and whaling on the island ended in the mid-1960s. Since then, the population of fur seals, which was once nearly extinguished on the island, has exploded.

“During breeding season, the beaches are absolutely full of fur seals, as well as huge elephant seals and penguins,” says CAU researcher Marcus Brittain, who was the lead archaeologist on the recent expedition. The activity of all these seals threatens to destroy the traces left behind by the sealers who once hunted them. When seal populations were lower, silt accumulated around these remains, and thick stands of tussock grass—the island's only vegetation—grew on top of them, offering protection from the elements. “Now that the seal populations have returned, they are churning into and eroding all of that tussock grass, and the strong storms that hit the island are taking their toll as well,” says Brittain. “The archaeology is being revealed, but is now, unfortunately, at risk.”

The most prominent remains of sealing on South Georgia are try-pots, the large cast-iron cauldrons that sealers used to render elephant seal blubber. “They would go through the bloody motions of killing the animals,” says Brittain. “Then they would chop them up into what they called Bible leaves—blubber chunks about the size of a page from a bible.” The sealers would then throw these chunks into try-pots, where they would boil the blubber and turn it into oil. Brittain and his team documented try-pots at a number of locations, but those at Elsehul, a protected spot near the northwest tip of the island, suggest it was a major processing site. In the 1980s, a trio of try-pots at Elsehul began to emerge from the soil as it eroded, and are now fully aboveground. The archaeologists found that these try-pots were placed in a stone building with walls that were nearly two feet thick. Excavation directly in front of the try-pots revealed a brick and stone hearth above which, Brittain says, the cauldrons were likely suspended as they simmered away.

THE SHIPS THAT SAILED to South Georgia were far too large to approach the island's coast. They tended to remain in deeper waters while gangs of sealers went ashore via the island's dozens of fjords using shallops, smaller boats equipped with oars and sails. “There would be a prolonged time during which the sailors would be ashore, in pretty tough conditions,” says Brittain. “It's a very changeable climate there. You can be in bright sunshine one minute and then a thick snowstorm with horizontal winds the next.”

Securing shelter was essential. Often, says Damien Sanders, a maritime historian and archaeologist who produced an annotated edition of Smith's autobiography, the sealers would drag their boat up the beach, turn it upside down, crawl underneath, light a small blubber fire, and go to sleep. As Smith discovered one night during his first voyage to South Georgia, though, this could end badly. After a long day of slaughtering seals and a hearty dinner of fried elephant seal hearts and tongues, washed down with coffee, Smith writes in his autobiography, he and his fellow sealers lay down to sleep under their boat on the beach at what was then known as Disappointment Bay. When the wind picked up, they tried to hold the boat in place. “Towards midnight the gusts became so severe in spite of all our efforts to keep her down, that she was blown from us about fifty feet into the air,” he writes. “She came down on

The Fur of the Sea Bear



RECORDS OF VOYAGES TO South Georgia, and other islands in the South Seas, make clear that millions of fur-seal pelts were exported from these remote locations in the eighteenth and nineteenth centuries. What became of these pelts once they were sold in London, New York, and southern China is less well understood. To try to find out how the pelts were used in England, Robert Burton, who served as the South Georgia Heritage Trust's project manager for a recent archaeological expedition to the island, searched British newspaper archives.

Burton found that when sealskins first arrived in London in the late eighteenth century, there was little demand for them and they were used to produce thin leather for gloves and shoes. In 1795, a trunk maker named Thomas Chapman developed an involved process of preparing seal fur for use in place of expensive beaver fur in hats. But Chapman had poor luck—deeper-pocketed competitors outbid him for pelt shipments and poached his methods. In any case, by the end of the eighteenth century, silk had largely replaced the fur covering in hats.

Seal fur was more popular when spun into wool. Burton has discovered a number of newspaper ads for shawls made from the material, including one that addressed itself "To Ladies of Fashion" and hawked "Patent Georgian Satin Cloth, made from the Fur of the Seal or Sea Bear of the South Seas...softer and more delicate than the India Shawl." He also found a description in the January 19, 1804, *Morning Post* of a "Georgian satin cloth coat and breeches" made from seal wool worn by Lord Somerville at a coach parade to celebrate Queen Charlotte's birthday. The coat was, reportedly, "of the most delicate texture imaginable." Burton even managed to track down a sample of seal wool produced by Chapman in the Sheffield City Archives. "It had the smooth, cool feeling of ivory," he says. "It would have made a lovely material."—D.W.



This cave in Whistle Cove on South Georgia's northern coast appears to have been used by sealers as a shelter. A stone and grass wall, remains of which are visible in front of the cave, would have provided additional protection and insulation.

the sand a hundred feet from where she was, and then rolled over with the force of the wind a hundred feet more, before she reached the water." The boat was severely damaged, and Smith and his fellow sealers spent the rest of the night trudging up and down the beach to keep from freezing.

In some areas of the island, sealers found caves where they could sleep with greater protection. But even then, Smith learned, one was still at the mercy of fearsome storms. During a later voyage to the island, having cleared all the elephant seals from one beach and rowed for miles through icy, choppy waters, he and his fellow sealers were overjoyed to discover a spacious cave in what was then known as Snow Squall Bay. There they spent the night. "Towards morning," Smith writes, "we were aroused by the sound of the wind and the roaring and beating of the sea against the cavern." The storm trapped them inside for three days and swept away one of their boats, which they had left outside the cave's entrance.

Sealers in a different cave, in Whistle Cove, midway up the northern side of the island, may have had an easier time of it, based on the archaeologists' findings. Near the cave's surface, the team first unearthed tin cans that likely held British soldiers' rations from the 1982 Falklands War, which was fought, in part, on South Georgia. About one and a half feet farther down, they came upon an assemblage that they believe was left behind by sealers, based on the presence of a clay pipestem thought to date to the late eighteenth or nineteenth century. Charcoal and charred bones believed to have belonged to penguins were also present. "It looks like they were burning penguins as a heat source," says CAU archaeologist Andrew Chaplin. The birds' high fat content made them a ready source of fuel.

Memoirs written by South Georgia sealers such as Smith often give the impression that they relied entirely on makeshift shelters and did little to build more permanent dwellings. But the archaeologists uncovered a number of wood and stone structures on the island that must have required a good deal of skill and effort to construct. "Reading the sealers' accounts,

you get the sense that people would just go down, whack some seals, pack up, and get out of there,” says University of Cambridge archaeologist Ian Ostericher. “Instead, it looks like there was a much more substantial occupation, and that they were spending quite a bit of time and energy to make sure they had a fairly comfortable base station.”

In front of the entrance to the cave in Whistle Cove, for example, the team found the remains of a stone and tussock-grass wall that would have provided additional protection against the wind and the cold. And, nestled into a naturally sheltered U-shaped rock crevice at Albatross Cove, at the southeastern end of the island, they uncovered the floorboards and collapsed roof remains of a carefully constructed timber hut that Brittain believes was probably used by generations of sealers. When they dug a trench in front of the floorboards, the team unearthed the remains of a wall with two layers—the inner one formed of woven tussock grass and the outer one of stone—that appears to have been designed to provide added insulation. Near the remains of the hut was a stone hearth that, like a number of those found on the island, contained a concretized substance thought to be

ivy leaf, incised lines, and the initials S and T. Makers’ marks might also be found on the try-pots. In addition, Brittain hopes dendrochronology can be used to help date the wood in structures at Albatross Cove and several other sites. However, these dates could be misleadingly early as any wood used on South Georgia had to have arrived from elsewhere, either in the form of driftwood or parts of ships.

AT THE END OF SMITH’S first voyage to South Georgia, *Norfolk* returned to London bearing a healthy cargo of 3,500 barrels of elephant seal oil and 5,000 seal-skins. More experienced crewmembers received a portion of the profits, but Smith’s apprentice wages barely covered the cost of his clothing. Lacking other options, he

prepared to return to South Georgia. “I was compelled,” he writes, “with a full view of all my future toils and miseries, to...go a second voyage to that desolate island, unfit for human beings to inhabit.”

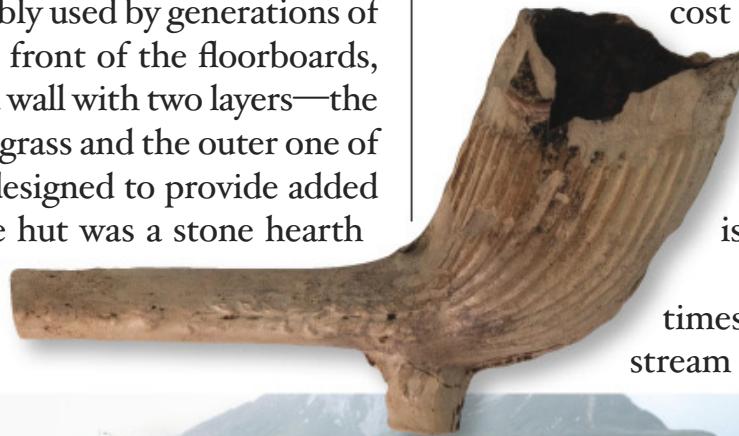
Smith sailed to South Georgia three times in all, and endured a seemingly endless stream of misadventures and near-death experi-

ences on the island. Among the most harrowing took place in the vicinity of Albatross Cove, in December 1818, according to Sanders’ research, at a time when the hut there does not appear to have been available for use. After a furious stretch of work in which he had helped amass some 20 tons of elephant seal blubber and then load it onto a shallop anchored in what was then known as Cooper’s Harbor, of which Albatross Cove is a part, Smith was invited by a fellow crewmember and friend to spend the night on the boat. It seemed a welcome place to rest his work-weary bones, but early the next morning a gale blew in and great waves drove the shallop against the rocks. After clinging to a carved panel on the stern for dear life, Smith was caught by the sea and “thrown onto the beach

with great violence.” Smith’s friend and another crewmember were both swept away to their deaths.

The disaster saddened Smith, but there was more work to be done. After salvaging what blubber they could from the wrecked shallop, Smith and others sailed southeast some 450 miles to the South Sandwich Islands. Elephant seals were growing scarce on South Georgia, and it was time to seek out a new place to hunt. ■

Daniel Weiss is a senior editor at *ARCHAEOLOGY*.



At Albatross Cove on South Georgia’s southern tip, archaeologists unearthed the floorboards of an expertly built wooden hut. Nearby, they found a clay tobacco pipe dating to the mid- to late 19th century.

burned blubber mixed with bits of burned bone. Ostericher took a sample of this substance and plans to analyze it to see whether discrete layers can be discerned, almost like tree rings, possibly indicating use over multiple years.

Determining the exact date of the Albatross Cove hut—or any of the remains of sealing discovered on South Georgia—is challenging. A clay tobacco pipe unearthed by Chaplin at Albatross Cove appears to date to the mid- to late nineteenth century, and more precise dating may be obtainable if its manufacturer can be identified based on its markings—an

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A view from the southern end of Lake George. The lake was one of the many strategic waterways in upstate New York along which English and French troops clashed during the French and Indian War. This corridor has come to be known as the “Great Warpath.”

LETTER FROM LAKE GEORGE

EXPLORING THE GREAT WARPATH

Evidence from forts, hospitals, and taverns in upstate New York is illuminating the lives of thousands of British soldiers during the French and Indian War

by JASON URBANUS

On a bluff above the southern shore of the picturesque Lake George stands a small granite memorial. A bronze plaque commemorates the burial of four soldiers who died nearby during the 1755 Battle of Lake George, an early skirmish in the French and Indian War, which pitted British forces against the French and

their Native American allies. The men's remains had been unexpectedly disturbed during road construction in the 1930s, and were eventually reinterred in their present location beneath the monument. They are believed to be the oldest unknown American soldiers in the United States.

This grim discovery is not altogether

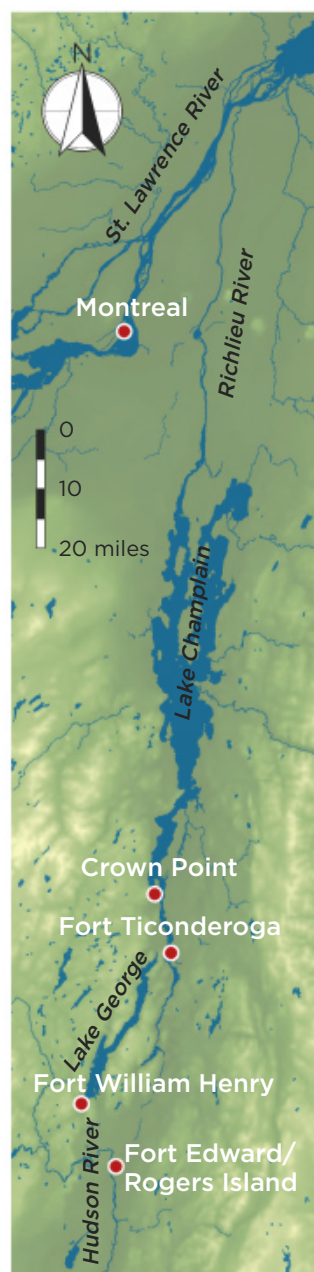
unusual for this region. There are many forgotten graves here, vestiges of a time when tens of thousands of soldiers roamed, fought, and died in these woods. “Given the long history of intense military activity here, I would expect that many additional unknown burials remain undiscovered in the area,” says Charles Vandrei, historic

LETTER FROM LAKE GEORGE

preservation officer with New York's Department of Environmental Conservation. The sporadic encounters with fallen soldiers are reminders of a contentious chapter in North American history, when this frontier region was the chessboard on which two European superpowers played a bloody game that would determine the destiny of a continent.

Although today this section of upstate New York is bustling with throngs of summer tourists, 250 years ago it was harsh wilderness covered by tangled forests, marshy wetlands, and otherwise inhospitable terrain. It was also critically strategic territory, as it comprised a kind of no-man's-land between French possessions in Canada and British possessions in New York and New England. War loomed on the horizon as each crown claimed the area as its own.

Most importantly, this region is notable for its natural network of nearly contiguous waterways that connects New York City to Montreal and Quebec via the Hudson River, Lake George, Lake Champlain, and the Richelieu and Saint Lawrence Rivers. In the days when overland travel was slow and burdensome, people, and especially armies, moved most efficiently on the water. During the French and Indian War (1754–1763), as the British and the French attempted to outjockey one another, whoever controlled these passages essentially controlled North America. As they prepared to battle over this land, it began its transformation into a war zone. The opposing sides erected a series of forts to defend their positions and to launch forays into enemy



territory. The French built Fort Saint Frederic, which was renamed Crown Point when captured by the British, and Fort Carillon, later renamed Ticonderoga, along Lake Champlain. The British countered by building Fort William Henry on Lake George and Fort Edward on the Hudson River. These are among the more recognizable sites, but there are also many smaller, lesser-known examples scattered throughout the area. “The Lake George region—indeed the entire corridor of the upper Hudson Valley through to the Champlain Valley—contains the largest and most significant concentration of eighteenth-century military archaeological sites in North America,” says Vandrei.

Plymouth State University archaeologist David Starbuck refers to this stretch of sites in northeastern New York

as the “Great Warpath.” Over the past several decades, archaeology has played a vital role in helping not only to reconstruct this military landscape, but also to delve deeper into the lives of the soldiers who lived and died here. Much of that work has been led by Starbuck, who was raised in the area and who has undertaken numerous archaeological projects there in cooperation with SUNY Adirondack over the last three decades.

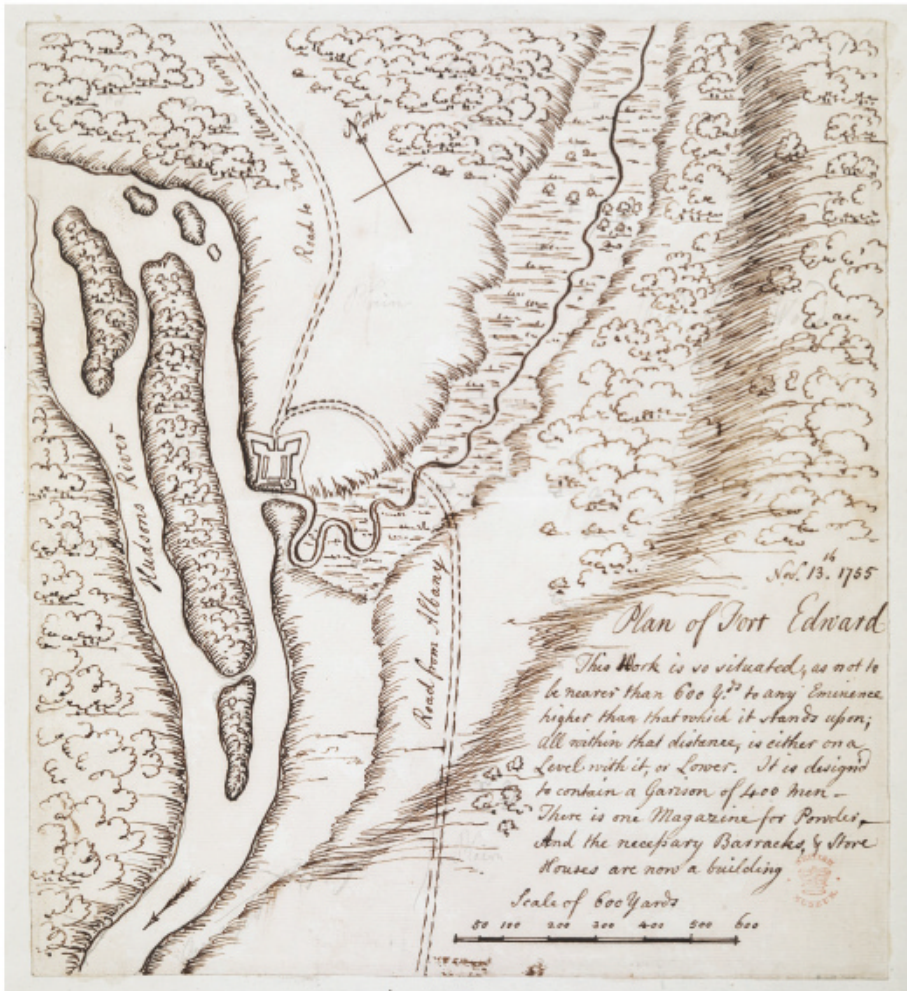
In recent years, Starbuck and his team have worked along the Hudson River about 13 miles south of Lake George, in the modern town of Fort Edward, which was named after the eighteenth-century British fortification, and on Rogers Island, which lies a few hundred feet away in the middle of the Hudson River. The modern town of Fort Edward is rather non-

descript, but in the mid-eighteenth century, it was the site of the largest British military encampment in North America. In fact, between 1757 and 1759, as many as 15,000 soldiers were stationed at the fort, making it the third-largest British settlement in America at the time, behind only New York and Philadelphia. None of the fort's original infrastructure is visible, as it lies buried deep beneath the town. But, periodically, Starbuck and other archaeologists have been able to gain small glimpses. This has often involved the unusual process of digging in people's front yards or crawling through their basements. “There are military encampments everywhere under the streets of Fort Edward,” says Starbuck.

Construction on the fort began in 1755, early on in the French and Indian War. By that time, English colonies had spread along the eastern seaboard, from Maine to Georgia, and west to the Appalachian Mountains. The French, on the other hand, controlled



A monument near Lake George commemorates the burial of four unknown soldiers who died during the Battle of Lake George in 1755. They are the oldest recognized unknown American soldiers in the United States.



A 1755 map shows the location of the star-shaped Fort Edward along the eastern bank of the Hudson River. Rogers Island sits in the middle of the river, just opposite the fort.

a swath of territory that essentially enveloped the English. It extended through the Saint Lawrence Valley in Canada, across the Great Lakes, and down the Mississippi River to Louisiana and the Gulf of Mexico. As English colonists gradually pushed north and west, they inevitably pressed against lands claimed by the French throne. Relations between the French and the English were like a tinderbox waiting to explode. Some historians believe that it was a 21-year-old British lieutenant colonel named George Washington who ultimately lit the spark when he ambushed French troops in what is now western Pennsylvania. The ensuing conflict eventually snowballed into a global war involving most European powers, which was fought not only in North America, but also the Caribbean, mainland Europe, and as far away as India.

During the mid-1750s, much of the conflict was centered on upstate

New York's strategic waterways. While intense fighting occurred at locations such as Fort Ticonderoga and Fort William Henry, no meaningful shots were fired at Fort Edward. Archaeology at the former sites reveals details about war, siege, and massacre. Archaeology at Fort Edward reflects soldiers' daily activities and the logistics of eighteenth-century military life. It is where British soldiers lived and were stationed before being sent to fight in the com-

bat zones to the north. "Fort Edward is that last big base camp where everybody gathered," Starbuck explains. "It is where the supplies were amassed and where the training was done before they pushed toward French positions." These were the soldiers who were buried in the unmarked graves that have been occasionally rediscovered by construction projects.

The best place to closely examine the lives of British soldiers through the artifacts they left behind has been Rogers Island. During the course of the French and Indian

War, the island was the centerpiece of the military complex at Fort Edward and would have been abuzz with activity. It had hospitals, storehouses, and barracks for thousands of troops. These included British regulars, enlisted American colonists, and Major Robert Rogers and his band of Rangers. Rogers, for whom the island is named, is one of the period's most colorful and divisive characters.

During the war, the New England-born Rogers led an unconventional group of around 400 special operatives who eschewed traditional European tactics and adopted a style of fighting similar to that used by the area's Native Americans and better suited to the terrain. They were a constant thorn in the side of the French and their allies. "Rogers' Rangers are among the best known of the units that operated using special techniques for small unit movement and combat," says Vandrei. "They played a key role in reconnaissance, in providing cover to armies on the march, and in harassing enemy movement and supply."

The Rangers used the island as their main base for more than two years and it is there that Rogers is said to have codified his new fighting tactics into a series of 28 rules. "Modern U.S. special forces still read those rules of ranging, so we love to call this place the birthplace of the U.S. Army Rangers," Starbuck says.

Excavation on Rogers Island has uncovered the remains of an array of different types of housing used by the soldiers stationed there, including large-scale barracks, tent sites, and crude cabins. There are also officers'

Two strips of gold braid were likely once part of a British officer's uniform trim. They were discovered in what is thought to have been an officer's house on Rogers Island.





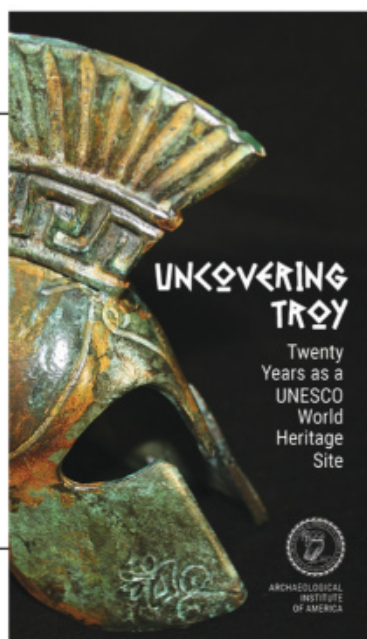


ARCHAEOLOGICAL INSTITUTE OF AMERICA

THE YEAR OF TROY

The year 2018 marked the 20th anniversary of the ancient city of Troy's listing as a UNESCO World Heritage Site. Located in the Çanakkale province in Turkey, Troy is the famous site of the Trojan War as first described in Homer's *Iliad*. Over the centuries, the epic's larger than life characters - Achilles, Hector, Paris, Helen, Odysseus, Agamemnon, and others - have become part of many cultures.

The Trojan War, however, is only a part of Troy's rich history. Archaeologists have found nine successive cities on the site of Troy, each built upon the ruins of earlier settlements. From the time of its founding circa 3000 B.C., the city has been home to the Greeks, Romans, and other civilizations, each of which has left physical evidence of its occupation. Today, Troy's ruins are an archaeological destination visited by thousands every year.



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The AIA thanks Richard C. MacDonald for his generous support of the Year of Troy Project.

LETTER FROM LAKE GEORGE



An assortment of brass and pewter buttons were discovered in a sutler's house at Fort Edward, a place where soldiers could relax and purchase food and drink.

quarters, distinguishable by their larger size and better-quality construction, as well as the presence of artifacts, including wine glasses, fine porcelain, gold-braided uniform trim, and decorated buttons that are indicative of a higher standard of living.



A curved fascine knife, a special tool used for clearing brush or cutting small bundles of wood, was found near the smallpox hospital on Rogers Island.

But for Starbuck, the importance of Rogers Island lies in the lives of the ordinary soldiers who were stationed here. "Most of what we find is not from the rich and the famous, but from those poor guys training here, trying to stay busy, or waiting to go and fight," he says. "A battle may be a couple of hours, and then that's it. Then they go home or they are dead. Rogers Island is about how they were living 364 days a year, and not simply about the one day they went to fight."

Thousands of artifacts have been excavated from sites across the island. There are, of course, hundreds of musket balls, gunflints, and rifle parts, as each man maintained his own weapons and often made his own ammunition. There are also tools, such as axes, spades, and special fascine knives used for cutting small bundles of wood. Soldiers used these to improve their shelters, chop down trees, and prepare their fires for cooking and warmth. Occasionally the men passed the time by playing music, as evidenced by the discovery of instruments such as a jaw

harp. They dressed mostly in plain uniforms, with undecorated brass buttons and buckles, which they mended using needles and thimbles. The presence of hundreds of animal bones suggests that, while the soldiers' diet consisted mainly of pork and beef supplied by the quartermaster, they supplemented this by sneaking off to fish or hunt deer. They ate their meals on unrefined earthenware and stoneware. "Rogers Island was where men from many different colonies came together, suffered a bit from boredom and bad food, and compared notes," says Starbuck.

The darker side of eighteenth-century military camp life—disease, rudimentary medical care, and death—has also become apparent through Starbuck's work on the island. Dying from disease was much more of a reality for an eighteenth-century soldier than was dying in battle.



An iron jaw harp from the excavated sutler's house is a type of musical instrument popular among soldiers.

Vandrei estimates that as few as 10 percent of all military deaths at the time were combat-related. "Crowded conditions, poor sanitation, poor nutrition, and a limited understanding of disease cause and transmission meant that sickness was always present," he says. "Life in a military camp was inherently dangerous."

Because Fort Edward functioned as a kind of staging ground, sick and injured soldiers from across upstate New York were brought to its numerous hospitals, including one dedicated to treating smallpox, which Starbuck and his teams have partially excavated. It is the only colonial military smallpox hospital to have been archaeologically investigated. Some of the most unusual objects found on Rogers Island may

(continued on page 62)

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LETTER FROM LAKE GEORGE

(continued from page 60)

reflect the harsh realities of eighteenth-century medical care. Between one-quarter and one-fifth of the lead musket balls have teeth marks, perhaps caused by pigs or other animals. Alternatively, Starbuck suggests, the marks may have been left by soldiers clamping down on the soft lead to cope with the extraordinary pain of surgery performed without anesthesia. “Often soldiers did bite down on musket balls,” he explains. “If your hand or arm is being amputated, you are going to need to bite down on something or you’re going to lose your tongue.”

While life on the northern frontier was harsh, British soldiers did have a few places where they could relax and even purchase some of the finer things in life, which were not typically available so far from major urban centers. These were the sutlers’ houses—part tavern, part general store—where civilian merchants set up shops catering to the soldiers’ needs. One sutler’s house has been excavated by

A bayonet (left) and gunflints (above) are among the plethora of military items unearthed during excavations in Fort Edward.

Starbuck’s teams. According to contemporaneous sources, it was owned by a Mr. Edward Best, who ran his profitable business on the outskirts of Fort Edward. “If you wanted something more, something different, or something nicer, this is about the only relief that you were going to get,” Starbuck says. “I would think on pay day you could imagine thousands of officers and men coming down to buy good stuff from the merchant here to make their lives a little bit better.”

Mr. Best’s shop burned down in 1757 or 1758, and, when it collapsed, many of the salable

goods and everyday objects were buried and preserved in the cellar. These included buttons, buckles, and fasteners; military items and tools such as bayonets, musket parts, and spades; and dining ware such as plates, dishes, glasses, cups, and utensils. And, perhaps not unexpectedly in a community of soldiers, there were thousands of broken tobacco pipes and more than 10,000 wine bottle fragments. “If you had some extra cash, what would you want to buy?” Starbuck asks. “Booze and tobacco. What a great place to do business. Fifteen thousand guys, all waiting to drink and smoke.” Since the sutler’s house was a commercial establishment, it is also unsurprising that a large number of coins have been discovered there—more coins than Starbuck has ever seen at a military site. An especially high concentration

was unearthed near a wooden staircase leading down to the storage cellar where soldiers would have stood with their coins in hand, waiting for their mugs to be refilled.

Unbeknownst to

A lead musket ball shows teeth marks that may have been made by a soldier biting down on the ammunition to help cope with pain during surgery.

Starbuck, the site’s greatest cache had remained out of reach for many years, concealed beneath a large tree that had grown out of the cellar. Because of the tree’s enormous size and complex root structure, Starbuck had simply dug around it. Fortunately, the tree had also deterred looters who had been scavenging the site for many years. “No looter had ever wanted to dig through the tree roots,” says Starbuck. “We hadn’t either.” A few years ago, however, he finally resolved to remove the tree and discovered a stack of 20 Spanish silver dollars buried in



A soldier’s hut with a well-preserved brick fireplace was excavated on Rogers Island.



Two bone-handled knives (above), a rare 1652 oak tree shilling (right), and wine glass stems (below) are among the thousands of artifacts retrieved from the cellar of the sutler's house.



LETTER FROM LAKE GEORGE



A large tree (left) grew out of the cellar of the sutler's house and impeded excavations for many years. When the tree was finally being removed (center), archaeologists discovered a hoard (bottom) of 20 Spanish silver dollars.

the cellar floor, amounting to a small fortune in the 1750s. Starbuck's theory is that Best, who, according to written sources from the time, was deep in debt, had put the money aside in case he was forced to leave quickly. When his business burned down, Best's stash of coins was buried and trapped beneath debris. "I don't think he was able to get to his traveling money," says Starbuck. "I think he just plain took off. For the rest of his life he probably wished he could have run in to get it before he left."

At the conclusion of the French and Indian War, the British Empire had won almost all of France's North American territories. The events that transpired along the Great Warpath and the soldiers who passed through Fort Edward were instrumental in that outcome. Some of them, such as Robert Rogers, are famously associated with the fort. Many other young men who spent time there would only later become household names during the American War of Independence, among them Benedict Arnold and Paul Revere. However, thousands of anonymous soldiers lived and died in these woods and on these waterways. It is their lives that are finally coming into view. "We keep coming back here because I sense they have a history here that is hard to duplicate anywhere else," says Starbuck. "Fort Edward and Rogers Island feel like places where archaeology can make a difference. It may not be as glamorous as the site of a massacre or a battle, but the stories here might be a little bit deeper." ■

Jason Urbanus is a contributing editor at
ARCHAEOLOGY.





CELEBRATE INTERNATIONAL ARCHAEOLOGY DAY, OCTOBER 19, 2019



The ninth annual AIA-led global celebration of archaeology is fast approaching—and we encourage you to join the festivities! Events will be held around the world throughout the month of October. Find and participate in a public archaeology event near you by visiting archaeologyday.org.

International Archaeology Day (IAD) has grown by leaps and bounds over the years. In 2018, over 1,000 events were organized in more than two dozen countries, making IAD a truly international celebration. One of those countries was Croatia. There, the Archaeological Museum in Zagreb organized a series of events to celebrate IAD, including a special exhibit, guided tours, and several workshops and talks. You can read about these and other activities on the IAD blog and you can find events planned for 2019 on the IAD calendar. Remember to join us in October when we launch another season of ArchaeoMadness—our online, interactive IAD contest. To find out more about IAD and to access our blog and calendar, go to archaeologyday.org.

AIA LOCAL SOCIETY EVENTS FOR IAD—AND BEYOND

Each year, dozens of AIA Local Societies host community outreach events that feature archaeological experts and resources. The AIA provides small grants to our societies to support these efforts. The 2019 Society Outreach Grant winners are featured below.

Unwrapping Ancient Egypt: The AIA Central Missouri Society will host the Missouri Egyptological Symposium and accompanying Educators' Workshop. This will bring together Egyptologists, archaeologists, teachers, students, and other interested parties from around Missouri.

International Archaeology Day at the Parthenon: The AIA Nashville Society and the Parthenon Museum in Nashville will celebrate International Archaeology Day with a variety of archaeological activities that illustrate the legacy of Greek culture and demonstrate archaeological concepts.

Community Archaeology Day at Frost Town: The AIA Rochester Society will sponsor a one-day event for the public to participate in an active excavation being conducted by the College at Brockport, SUNY, at the late 18th-century logging community of Frost Town.

International Archaeology Day in 3-D: The AIA Tampa Bay

Society will host an International Archaeology Day event in which participants can interact with 3-D printed objects created from a local collection of Near Eastern artifacts.

Archaeological Community Film Series: The AIA Western Massachusetts Society will host an archaeology-themed film series at the Amherst Cinema. Experts will lead discussions after screenings of *Layers of Pompeii* (2016) and *Boy on a Dolphin* (1957).

William and Mary Archaeology Day: The AIA Williamsburg Society will support William and Mary Archaeology Day, an interdisciplinary event that brings together professionals and students to explore archaeological methodologies, purposes, and contributions.

400th Plimoth Plantation Anniversary: The AIA Worcester Society will host a special lecture at Holy Cross College to commemorate the 400th anniversary of the founding of the Plimoth Plantation and the development of Massachusetts.



DISPATCHES

FROM THE AIA
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IT'S TIME TO REGISTER FOR THE AIA-SCS JOINT ANNUAL MEETING



The 121st Joint Annual Meeting of the AIA and the Society for Classical Studies will take place January 2–5, 2020, in Washington DC, at the Marriott Marquis Washington DC. Thousands of scholars and students will gather to discuss the latest research and discoveries in archaeology, classics, philology, and related fields. The meeting is open to the public—you do not have to be an AIA member to attend. Meeting registration opens in early September, at which time you will also be able to make hotel reservations for the meeting. We encourage you to book early to secure the discounted group rate. For more information, please visit archaeological.org/annualmeeting.

NEW SEASON OF THE AIA LECTURE PROGRAM BEGINS

The 124th season of the AIA Lecture Program begins in September 2019 and runs through the end of April 2020. The 2019–2020 lecture season features 89 leading scholars who will present 207 lectures at AIA Societies across the United States and Canada. AIA lectures are free and open to the public; we encourage you to find one near you. To view the calendar of upcoming lectures, visit archaeological.org/lectures.

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The AIA would like to thank everyone who generously gave to the Institute during the 2018–2019 fiscal year. Your generosity promotes archaeological discovery, directly supports archaeologists in the field and in the classroom, and truly makes a difference in aiding our efforts to advocate for the preservation of our shared cultural heritage around the world. None of this would be possible without your vital support.

AIA RECEIVES KRESS FOUNDATION SUPPORT FOR PUBLICATIONS

The AIA was recently awarded a five-year grant from the Samuel H. Kress Foundation to support scholarly research and publication on classical art and architecture. Kress Foundation support will allow the AIA to continue publishing *Selected Papers on Ancient Art and Architecture* (SPAAA) and to award the Samuel H. Kress Grant for Research and Publication in Classical Art and Architecture. The AIA thanks the Samuel H. Kress Foundation for its generous support.

DAY OF GIVING

To support our programs in the 2019–2020 fiscal year, the AIA is organizing a “Day of Giving.” Proceeds from this effort will help to fund the AIA’s many programs. These programs actively support research and fieldwork, educate people of all ages and backgrounds about archaeology, and preserve archaeological heritage. We encourage you to participate in this fundraising initiative in October 2019. More information can be found on our website at archaeological.org.

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King for a day? How about emperor for two months? Between A.D. 260 and 274, a succession of generals ruled over the Gallic Empire, a breakaway state from the Roman Empire that included the provinces of Germania, Gaul, Britannia, and, briefly, Hispania. In the spring of A.D. 269, having fended off a Germanic invasion, the military commander Ulpius Cornelius Laelianus declared himself Gallic emperor at Moguntiacum (modern Mainz), the capital of the province of Germania Superior. His reign would not survive the season.

Save for a mention in the *Historia Augusta*, a collection of biographies of the Roman emperors written hundreds of years after his reign, Laelianus is largely lost to history. The ill-fated ruler—who appears to have been assassinated by his own troops—is known primarily through the coins he managed to mint despite his brief reign. Thus, the recent discovery of a Laelianus coin during excavations at a small Roman farmstead on the outskirts of Cambridge adds a very short chapter to the enigmatic emperor’s tale. On the front of the coin, Laelianus wears a crown and is surrounded by a phrase identifying him as emperor. The reverse shows a personification of Victory holding a palm frond and wreath meant to proclaim Laelianus’ military prowess. “Many rulers, including Roman emperors, have struck coins to proclaim their position as head of state,” says Julian Bowsher, numismatist at MOLA Headland, which conducted the excavation. “It’s probable that a usurper like Laelianus did so in part to establish his credibility in contrast to his predecessors.”

Although Gallic coins were quite common in Britannia, having been brought over in bulk when the province was part of the Gallic Empire, coins struck by Laelianus are very rare, explains Bowsher. Only about 50 such coins have been found on the island. Equally rare are coins struck by one of Laelianus’ slightly more fortunate successors, a former blacksmith named Marcus Aurelius Marius, who lasted a full three months before he, too, was assassinated.

WHAT IS IT
Coin worth approximately two denarii
CULTURE
Roman
DATE
A.D. 269
MATERIAL
Copper alloy with traces of silver plating
FOUND

DIMENSIONS
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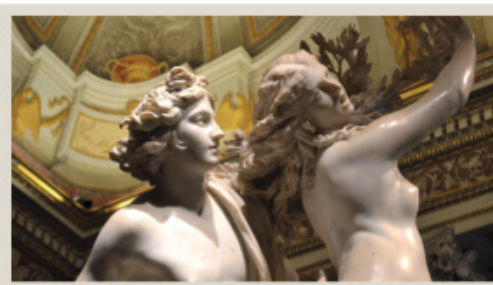
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